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THE UNIVERSITY OF ALBERTA

# TEACHER BEHAVIOR AND INFLUENCE IN E. M. R. CLASSES:

## An Analysis of Interaction and Communication Patterns in Classes for the Mildly Retarded

by

DONALD MALCOLM LITTLE

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF

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EDMONTON, ALBERTA

FALL, 1973

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THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled TEACHER BEHAVIOR AND INFLUENCE IN E.M.R. CLASSES: An Analysis of Interaction and Communication Patterns in Classes for the Mildly Retarded, submitted by Donald Malcolm Little, in partial fulfilment of the requirements for the degree of Doctor of Philosophy.

Myer Horowitz
Supervisor

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External Examiner

Date June 8, 1973

# DEDICATION

To the improvement of the teaching-management process and the enhancement of learning for the retarded in our schools everywhere.

To my father, Hector Little, as a tribute to his behavior and influence on me, and on the disadvantaged and devalued. He taught me the meaning of accepting, caring, and persisting.

To our young son, Robert Stuart Little, who assisted with the data, and who made his own contribution to this doctoral work in other less tangible ways. He taught me the meaning of freedom and of gentleness.

Neither of them lived to enjoy the results of this completed product. I loved them both dearly, with respect and thanks for their lives.

# ABSTRACT

Classroom interaction of ten primary and junior opportunity class teachers was recorded once weekly on different days during a five week period. The Flanders-Galloway Combined Interaction Analysis Categories System was used to code verbal and nonverbal teacher behavior. The data were arranged for computer analysis in 20 x 20 interaction matrices corresponding to the twenty categories. Thirty-four IDER (Indirect, Direct, Encouraging, Restricting) ratios for describing classroom social-emotional climate were calculated. The major findings indicated that the teachers were twice as Direct in their influence as that found by Flanders; that one-fifth of their influence was Restricting in nature; that pupils' freedom to respond was limited, creating a narrow range of cognitive experience with a rote-drill pattern of teaching. Teacher attitudes were measured using the Minnesota Teacher Attitude Inventory (MTAI). No consistent relationship was found between attitude scores and teachers' classroom behavior. Thus the total MTAI score proved to be neither a predictor nor reliable indicant of teacher behavior and influence. However, a factor analysis of the MTAI for an additional 160 special class teachers was performed. Item loadings revealed five distinct factors. Three factors which accounted for the largest amount of the common variance involved negative and unfavourable attitudes towards children. A Teacher Questionnaire was administered to tap perceptions of their task. Discrepancies were found between teachers' stated goals and observed classroom behavior and influence as indicated by the IDER ratios. In effect, teachers did not practise what they preached. On a teacher rating form of classroom climate and of their perceptions of individual pupils and the class as a whole, discrepancies were also found. Teachers did not rate their classes consistent with how their pupils rated them. Marked differences were found in the teachers' perceptions of the group as compared with individuals comprising the group. This was found to be particularly true of the level of difficulty and friction. The My Class Inventory (MCI) used to measure five dimensions of classroom climate as perceived by E.M.R. pupils showed reasonably high levels of Satisfaction, Intimacy, and Competition. The pupils also found a high degree of Friction and Difficulty. The results of the investigation raised a number of questions about the value of present delivery systems in special education (e.g., the self-contained opportunity class). An examination of three teachers in the sample with distinctly different characteristics pointed to the ability to recognize differences in classroom climate and teacher influence. No causal relationships can be claimed. Three teaching models have been proposed based on the results. These are the Talking Model, the Bossy Model, and the Responsive Manager Model.

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# CHAPTER 1

# INTRODUCTION

Broadly speaking, what happens in school can be viewed as the curriculum -- the sum total of all the experiences the child has there. Articulate criticism of harmful effects of much of today's curriculum (i.e., what happens to the child in school)can be found in the writing of Dexter (1964), Glasser (1969), Holt (1964, 1969), Jackson (1968),Kozol (1967), Postman and Weingartner (1969), and Thelen (1969), to name a few. Increasing emphasis on the accountability of education, teacher effectiveness, and evaluation studies, is an indication of present dissatisfaction with schooling at all levels. Not only is there concern for getting our money's worth, there is genuine concern for the worth of children, for their optimum growth and development, and for their total welfare.

The elementary school has a particularly sensitive role in setting the stage for learning. It is here that children formulate their initial definition of themselves, and their prospects for success or failure. Many influences are at work. The effect of the management of learning is related to a number of stimulus and response variables. Among these is the teacher's behavior and the classroom climate it helps to create. Other factors which can be identified include learners' perceptions of the level of competition, the degree of difficulty of assignments, the extent of intimacy or friction, and finally pupil satisfaction.

The question of the degree to which teaching behavior stimulates or stifles personal intellectual interests and involvement is one that needs an answer. The pattern of the teacher's response, verbal and otherwise, to the children's efforts, is now recognized as one of the prime components in good teaching (Hughes, 1969).

There are numbers of children in the elementary school unable to cope with the curriculum prescription. The demands of the regular classroom tend to defeat certain learners who by virtue of lower intelligence, speech and language disability, perceptual handicap, personality disturbances, and cultural disadvantage, require some form of specialized help. Except for the relief provided the regular class teacher by removal of a troublesome child, there is disagreement about the presumed benefits to the child himself. Leading authorities in the education of exceptional children question the advisability of segregating children from the mainstream of education (Dunn, 1968; Johnson, 1962; Kirk, 1966).

The claim is related in part to the belief that teaching is a highly institutionalized process; that it is much the same throughout the country with teachers demonstrating similar notions of the classroom job, and involves stereotyped instructional approaches, regardless of teachers' experience and skills, and regardless of the individual differences in the competencies of their pupils.

There is extremely little evidence in the literature, of teacher effectiveness and influence in special education classes. The question of whether or not different teachers' ways of working make a difference in social-emotional climate, in children's learning, and in attitudes toward learning, must be answered.

An attempt to determine the nature of teachers' influence in various classrooms has led researchers to go directly to the classroom to observe, and even more important, to record the classroom interaction of teacher and pupil. These records are largely of verbal interaction (Flanders, 1960; Hough, 1967; Hughes et al, 1959; Medley and Mitzel, 1958; and Withall, 1949, among others). The past decade has seen a mounting interest in studying social-emotional climate, prediction of classroom learning, teacher characteristics and effectiveness and pupil perceptions of the teacher and the learning environment (Anderson, 1968; Biddle and Ellena, 1964; Gallagher, 1968; Galloway, 1962; Rosenshine, 1971; Walberg, 1968, 1970).

Unfortunately, the major focus of these researchers has been on secondary and junior high schools, and on academic achievement in selected subject areas of the program of studies. Few attempts have been made to relate teacher attitudes, and statements of their professed goals and intentions, to their verbal and nonverbal teaching behaviors.

The major concern of this study is with special education classes for the mildly retarded, or the educable mentally retarded (E.M.R.). Children identified as E.M.R. are usually placed in self-contained opportunity rooms. In view of the conflicting opinions of the value of such special class placement, it would seem desirable to analyze the learning environment in a number of opportunity rooms in an effort to assess the influences on learners in this setting. The thrust of this study lies in the affective domain of teacher-pupil interaction, communication patterns, classroom climate, and perceptions of both teachers and pupils in special classes for the E.M.R.

We will be concerned in this investigation with determining whether opportunity class teachers tend to exert more positive or more negative influence in their teaching behavior. We will be concerned with the contact conditions and contact consequences, as reflected in the social-emotional climate of the special class. We will be concerned with how the learner views life in his classroom. In the main, our concern is with the question, what is special about special class teachers -- if indeed, they are special?

## BACKGROUND OF THE STUDY

Few authorities would deny that many children are failing the educational system -- as many as 20% according to the CELDIC Report (1971). It may well be that the system is failing the children.

Traditionally, educators have explained the poor results of E.M.R. youngsters in terms of the child's defects, deficits, or differences from "normal" children. Rarely is the responsibility accepted that it may be the teacher's behavior, or the curriculum prescription as translated into action by the teacher, that is the major contributing factor to the child's failure. The school's attempt to influence the learner may be viewed by him as largely negative, or unsatisfying. The practice of placing children in special classes suggests it "makes teaching easier." One wonders if it makes learning any easier. It is a question which bears investigation.

In the judgement of the researcher, teaching styles of special class teachers often tend to be undifferentiated from those of regular class teachers. In other words, apart from the prospects of a modified program of studies in the special class and reduced enrolments, the learner is still subject to former influences transplanted, so to speak, from standard teaching.

## STATEMENT OF THE PROBLEM

Many children in opportunity classes do not make satisfactory progress commensurate with their ability. Most of this "failure" has been attributed to intellectual or socio-economic factors. The problem that has been identified in this study is one of considering other important factors -- in particular those in the affective domain, which may be associated with the child's reduced performance. The main issues lie in the realm of teacher attitude, and nonverbal patterns of communication.

## PURPOSE OF THE STUDY

The purpose of this study is:

(a) to measure both directly and indirectly elements of classroom life such as teacher-pupil interaction, verbal and nonverbal communication patterns, interpersonal perceptions, and classroom social-emotional climate.

(b) to conduct a study of "high inference" variables within the class. High-inference measures are those gained from rating systems (e.g., pupils themselves assess their own learning environment) which filter pupils' perceptions of the classroom climate. Low-inference variables, such as those obtained by observational means, generally employ little interpretation from the observer. Observational category systems for recording teacher behaviors do not tap underlying variables (of the high-inference variety) which seem extremely important in dealing with pupil learning in schools (Rosenshine, 1971).

(c) to describe as completely as possible a number of opportunity classroom learning environments in relation to certain teacher characteristics such as attitudes, goals, age, sex, training, and experience.

(d) to perform a detailed analysis of teacher behavior and influence as revealed by interaction and communication patterns of teacher-pupil relationships.

(e) to determine what differences may exist with reference to those dimensions measured in (a) and (b) above, and their implications for training and selection of teachers for opportunity classes.

(f) to employ the Anderson-Walberg My Class Inventory on a try-out basis to assess its usefulness in measuring perceptions of E.M.R. children and social-emotional climate in opportunity classrooms.

## DEFINITION OF TERMS

For the purpose of this study the following definitions will be used:

### Classroom Climate

Classroom climate is used synonymously with social-emotional climate and class atmosphere. Classroom climate refers to the ethos created by the teacher's influence of verbal and nonverbal behavior. For this study it is defined as the various ratios derived from the interaction matrices which tabulate coded events of teacher behavior that is seen as Indirect/Direct, Encouraging/Restricting (IDER), and results of climate scores on the five dimensions of the MCI (My Class Inventory); viz., Satisfaction, Friction, Difficulty, Competition, and Intimacy (sometimes called Cohesiveness).

## Communication

Communication refers to social interaction performed through messages. Scrutiny of communication in the classroom is analysis of messages and processes. Communication events are composed of both verbal and nonverbal behaviors of both the teacher and the pupils.

(a) Nonverbal communication is behavior that conveys meaning without words. It can be symbolic or nonsymbolic, spontaneous or managed. Three main elements are: facial expressions; actions (posture; movement, gesture, space arrangement); and vocal quality (emotional tone). The categories of the Galloway nonverbal scale provide the basis for identifying nonverbal communication events.

(b) Verbal communication refers to classroom discourse, spoken directions, lecturing, praising, criticizing. Verbal communication is confined to the categories of the Flanders instrument -- one of several for measuring verbal interaction.

## Opportunity Class (O.C.) and Educable Mentally Retarded (E.M.R.)

Special classes which provide for educable mentally retarded pupils in the elementary school are known as opportunity classes, or rooms. Those pupils eligible for placement in such classes are described as having intelligence test scores on an individually administered standardized instrument (e.g., WISC, Stanford-Binet) in the range of 55 to 75-80, and who are experiencing enough difficulty in the regular class to need some form of special provision.

## Perception

Personal meanings which govern behavior are called perceptions. They form part of the person's phenomenological self. They may not be logical, but they may influence what is "real" for the perceiver. Behavior, therefore, becomes a function of the individual's perceptions. For purposes of this research, perceptions will be defined as the tape-recorded responses of O.C. children to a number of open-ended questions devised by the author. The five dimensions of the My Class Inventory will provide additional data about individual pupils and their perceptions of the class.

## Limitations of the Study

Some points about the research limitations will need to be borne in mind when results are examined. Certain limitations were quite clear even before embarking on the major study.

1. The sample was small. The study was limited to ten special class teachers and their pupils in primary and junior opportunity rooms in nine elementary schools.
2. The study focuses on verbal-nonverbal teacher-pupil interaction analysis involved in a variety of classroom teaching-learning activities. Observation periods were consciously planned to include a cross-section of the content areas rather than a specific subject.

3. A built-in limitation was the predetermined decision that measurement of pupil achievement and/or growth would not be included in the investigation. Advance concern with teacher behavior and pupil perceptions were the deciding factors. Process, not product, was the overriding priority.

4. The questionnaires and rating forms used in the study were only simple instruments devised by the author, and the data reported for them may not accurately reflect teacher-pupil contact conditions and contact consequences.

5. The amount, quality, and kind of observational data supplied was only partially representative of each teacher's range of verbal and nonverbal behavior.

6. The quality of the observational data was limited by the observers' skills, abilities, and the extent of training possible prior to launching the study.

7. Cause-effect relationships cannot be claimed, nor concluded, in the absence of experimental controls of key variables.

8. The observers' relationship over time with the participants in the research was seen as an intervening variable which may have influenced teacher behavior or pupil responses.

# CHAPTER 2

# RELATED LITERATURE AND THEORETICAL ORIENTATION

> The science of behavior must insist on the corollary that everything counts. Causality reigns (McLeish, 1963, p. 193).

Learning takes place in a context of personal relationships (McLeish, 1963, p. 85). We are nourished psychologically by the face-to-face groups in which we belong -- our family, our school, our neighbourhood, our clubs, and our jobs (McLeish, 1963, p. 93). The school will be our chief concern. We are concerned with how teaching and learning take place -- particularly from the affective viewpoint. We are concerned with the behavior of the teacher, the behavior of those who are taught, and the relationship between the two. Those things that facilitate (or hinder), clarify (or confuse) this process are our legitimate areas of inquiry (Clayton, 1965, p. 5).

## Affect and Cognition

The behavior of the learner is open to potential change in three dimensions -- the cognitive, the affective, and the active -- i.e., changes in his thinking, his feeling, and his doing. The creators of classroom observation and topic classification systems recognize the affective influence of the hopes, fears, and motives of the participants in any classroom; the affective influence on the performance of the individual and the group (Flanders, 1970; Gallagher and Aschner, 1970; Gordon, 1966; Hughes, 1959; Sears, 1964).

The affective domain assesses how the teacher reinforces the pupil. It is surprising to find that how teachers say what they say, or communicate information, appears to be a better predictor of change in pupil behavior than anything else educational research has turned up to date (Simon and Boyer, 1968, p. 5). The way teachers behave in the classroom does affect the way pupils behave (Anderson, 1945 in Simon and Boyer, 1968, p. 5). The way the teacher responds to pupils determines, in large measure, the affective climate of the classroom (Gorman, 1969, p. 52). Both statements are reminiscent of the classical S-R model.

Piaget (1961, p. 1) states:

> It is incontestable that affect plays an essential role in the functioning of intelligence. Without affect there would be no interest, no need, no motivation; and consequently, questions or problems would never be posed, and there would be no intelligence.

Affectivity, or the "logic of feelings," he claims, may lead to acceleration or retardation of cognitive structures. There is an affective/cognitive correspondence. Individual growth depends upon their developing in unison.

Lewin (1935, in Piaget, 1961, p. 2) makes an analogous interpretation:

> The perceptual field includes on the one hand a structure, the perceptual or cognitive elements,

> and on the other a force, which is the affective element; in all behavior the structure is cognitive, and the force, or economy, is affective.

One can see, then, why it has been recommended that teachers be taught better techniques for understanding the affective behavior of children (Halpern, 1970, p. 5).

The French psychologist Wallon thinks that emotion is a source of knowledge (in Piaget, 1961, p. 1). This gives some credence to Cleugh's (1957, p. 12) claim that the retarded child "knows because he feels," which is another way of saying that what is perceived is believed. This level of perception, the feeling level, may well be the major source of influence in the retarded's performance.

William C. Rhodes, Program Director of the Institute for the Study of Mental Retardation at the University of Michigan, contends that mental retardation is not solely an attribute of the individual, but the result of an exchange between the child and his environment; of the interchange between information (data) messages and emotional (affective) messages. One of the more unfortunate results of this exchange is the possible development of inadequate concepts, in which the child comes to believe "I am one who cannot (Cruickshank, 1967, p. 14)." Such belief is tantamount to a learned inability to achieve. More recently, Cruickshank suggests that although the child cannot be "cured," the environment can be modified to make learning possible (Halpern, 1970, p. 5). If we accept the thesis that teacher behavior shapes environment, we are brought to the importance of the social conditions of learning, the classroom, and the teacher's influence.

## Classroom Climate

> The quality of education depends primarily upon teachers' personal characteristics, their relationships with individuals and classes, and their skills in motivating and managing classroom activities.... It is in the detailed analysis of the behavior of teachers and pupils towards each other that we are most likely to find answers to some of the most pressing questions.... We are encouraged to look at such matters as person perception, information feedback, stereotyping, sensitivity to pupil needs, social skills, and teachers' expectations of pupils (Morrison and McIntyre, 1969, p. 28).

The present investigation is based on a rationale set in the context of the view expressed by Morrison and McIntyre.

Any interaction situation requires reciprocity (McDonald, 1965, p. 520). Experimental work suggests that both the students' perceptions of the typical pattern of control and the teacher's consistent maintenance of these patterns substantially influence pupil behavior (McDonald, 1965, p. 523).

Johnson (1967) speaks of the duality of classroom climate. The social-emotional tone of the classroom must be established and maintained for some end. He is primarily interested in the intellectual climate, in which achievement, not adjustment, is the goal. Some would question if a true distinction exists. It is not the purpose of this research to examine achievement, learner change, or pupil growth. Rather, the focus is upon the dynamics of instruction in the opportunity room. The fundamental disagreement embodied in intellectual climate and personal adjustment remains.

Such disagreement stems from different beliefs of the teacher's task. The teacher has two functions: teaching and management. Gorman (1969, pp. 58-59), identifies them as task function and management function. Teaching involves engagement in drill, recitation, examination, and the like. Management includes all the things that must be done to make the student go along with the teaching (Thelen, 1967, p. 16). Essentially, how the teacher does this is our concern.

Teachers have an image in their minds of what a class looks like when it is "learning." It tends to be orderly, attentive, responsive, cooperative, respectful, good natured; or it is enthusiastic, hard-working, full of interesting ideas, noisy at times, encouraging of individual opinions, etc. When the class fails to resemble the image the teacher has in mind, he takes steps. Herein lies the genesis of direct and indirect teacher control. It is a moot point just how conscious this is on the teacher's part; or to what extent typical control patterns are beyond his awareness. Interaction analysis systems attempt to identify teacher behaviors or patterns.

Two things seem to characterize harmonious groups -- power and morale (Raths, 1969, p. 62). Raths believes the teacher does a number of things that facilitate the emergence of both power and morale. In his view the vital component of teaching puts a great emphasis upon the feelings of children. He lists twelve components for creating emotional security in the learning situations (Raths, 1969, pp. 73-75). He lists eight additional points embracing thinking-related behavior, with a plea for teaching that provides opportunity for each student to earn status and respect from his peers (Raths, 1969, p. 82). Richardson (1967, p. 16) echoes a similar plea when she states: "If only we can learn to use the feeling experiences of the groups we teach, the intellectual work of the schools can be revitalized." Richardson emphasizes, however, the essential ambivalence of pupils towards their teachers. She speaks of the conflict between the wish to learn and the wish to avoid learning. Mager (1968) develops a similar theme within the S-R model of environmental (teacher) influence.

There are internal forces called needs which are said to interact with external forces called environmental press to produce behavior (Green, 1964, p. 38). Green points out that a student's own pattern of needs is not necessarily related to his description (perceptions) of the environmental press. This viewpoint lends support to the notion that external events conceptualized as environmental press, take precedence over internal events hypothesized as individual learner-specific needs. The style of a given teacher is one of the factors influencing the environmental press perceived by pupils. It follows that if change in student behavior is the goal, then this change can come about only when changed teaching style alters the press felt by the student. Perhaps this concept is most consistent with Raths' (1969) thesis about power and morale.

Teachers are not without certain environmental press either. As an example of this press Richardson (1967, p. 182) examines the bonds and tensions between staff members, assessing how these can affect a teacher's behavior in the classroom group. The uses and abuses of time during the school day is another example of environmental press. However, one thing is clear -- good students, good teachers, and certain atmosphere tend to go together (Green, 1964, p. 39).

It may be helpful to select one of the many schema that have been offered for describing climates to show the distinction between a supportive climate and a defensive climate. There is some evidence that a supportive climate maximizes the learning in the classroom (Gibb, 1960, p. 120). Figure 1 below, indicates the behaviors that produce a "supportive climate." Plus and minus signs indicate the presence or absence of the affective effects, respectively.

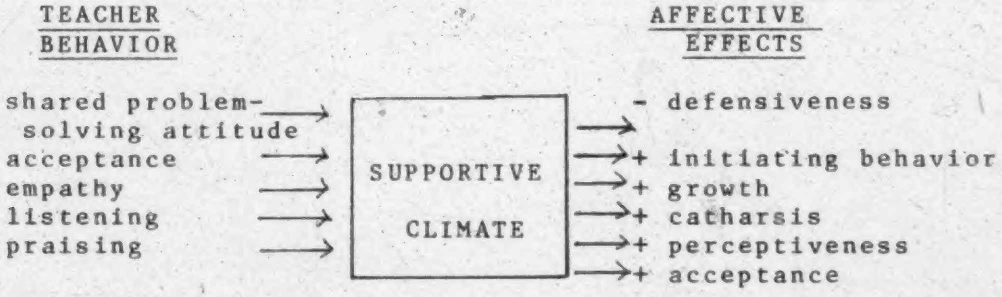
TEACHER BEHAVIOR
AFFECTIVE EFFECTS
shared problem-solving attitude
acceptance
empathy
listening
praising
SUPPORTIVE CLIMATE
- defensiveness
+ initiating behavior
+ growth
+ catharsis
+ perceptiveness
+ acceptance

Fig. 1. The Supportive Climate

While it is not the intention to compare one against the other, a contrasting climate is described in Figure 2. The observer of the classroom will want to be sensitive to diagnostic signs in the development of such a climate. The point should be made that in practice it is a matter of choice what sort of classroom the teacher wants. Judgements of which classroom climate is the better have to be withheld in the absence of reported empirical data.

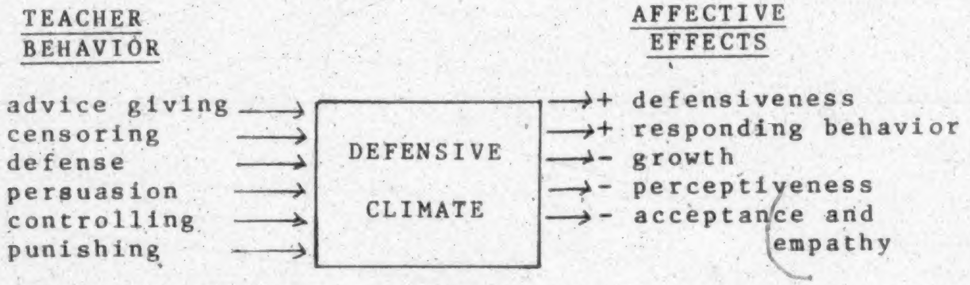
TEACHER BEHAVIOR
advice giving
censoring
defense
persuasion
controlling
punishing
DEFENSIVE CLIMATE
AFFECTIVE EFFECTS
+ defensiveness
+ responding behavior
- growth
- perceptiveness
- acceptance and empathy

Fig. 2. The Defensive Climate

Englemann's (1969, p. 40) claim that if the learner fails to learn it is the teacher's fault, is borne out in part by Walberg and Anderson (1968) who report that the student's individual satisfaction with the climate of the class makes for learning, and that student perceptions of the structural and affective aspects of social-emotional climate are strongly related (p. 414). An excellent overview of teacher-pupil relationships and classroom learning is set forth by Unruh (1969, pp. 122-148). A similarly useful survey of teacher-pupil interaction (Amidon and Simon, 1965, pp. 131-139) concludes that within school classrooms there appear to be definite patterns of teacher-pupil interaction which can be objectively observed and categorized. Their conclusion provides further rationale for the present study. Nuthall's (1970, p. 12) review of recent studies of classroom interaction and teacher behavior, demonstrates that there is still very little known about the causes or effects of events in classrooms. Although cause-effect in the experimental sense is not a part of the present research, Nuthall's (1970, pp. 6-29) review serves as a point of departure for our investigation of certain relationships among pupil-teacher interactions.

Bowers and Soar (1962, p. 310) state that it is inadequate to consider classroom social interaction independent of the teacher and pupil personality traits. This study attempts to meet such requirements by examining teacher attitudes (Minnesota Teacher Attitude Inventory -- MTAI) and perceptions, as well as pupil characteristics and perceptions. Witkin, et al (1954, p. 515) have shown the nature of perception-personality relationships in their study of personality through perception. A series of empirical studies of affect, cognition, and personality, are also reported by Tompkins and Izzard (1965).

## Communication Theory of Interaction

An assumption supporting many studies in education has been that the pattern of verbal communication existing in a classroom represents a major object for research activity (Galloway, 1968, p. 70). Pupils may learn more true meanings from nonverbal messages than they do from verbalizations. Growing out of a need for a broader perspective in relationship to the totality of the teaching-learning act have been a number of attempts to place both teaching and teaching behavior in a communication framework (French and Galloway, 1970). According to Smith (1960, p. 235) classroom discourse may be considered as:

$$\Big\| \; P_t \rightarrow D_t \longrightarrow R_t \longrightarrow \; \Big| \; P_p \longrightarrow D_p \longrightarrow R_p \rightarrow \Big| \; . \; . \; . \; . \; . \; .$$

In this formula, $P_t$ is the "teacher's perception of the pupil's behavior," $D_t$ is the "teacher's diagnosis of the pupil's state of interest, readiness, and the like made by inference from the behavior of the pupil," $R_t$ is the "action taken by the teacher in light of his diagnosis," $P_p$ is the "pupil's perception of the teacher's behavior," and so forth. Galloway has created an instrument intended to tap this flow of communication. It offers us a structured framework for observing and categorizing nonverbal behavior of teachers.

Observations based on both Flanders (verbal interaction) and Galloway (nonverbal interaction) categories yield information of the low inference variety. Low inference variables, like direct/indirect, encouraging/restricting ratios speak for themselves, as it were. They require a minimum of observer judgement or speculation about the nature of the events observed. The question of what other observers of these events, i.e., the receivers themselves of these events or "messages," conclude, is open to interpretation in the absence of direct receivers' information. Data of the latter type permit the study of high inference variables like learner perceptions of the class atmosphere -- descriptions of the learning environment from the learners' point of view.

Scrutiny of communication in the classroom is analysis of messages and process (Gerbner, 1968, p. 29). Gerbner defines communication as social interaction performed through messages. Messages may be verbal or nonverbal. Mager (1967, p. 81) expresses a concern for communication and the numerous ways in which we can say one thing and clearly communicate something entirely different by our actions. He sees the need for "tendency evaluation;" that is, with discovering whether tendencies are positive or negative. Our investigation will have more to say about this in a later chapter. Where negative tendencies exist, the pupil's ability to deal with content is lessened, and can be thought of as either limiting the ability to receive input or as negative reinforcement

(Simon and Boyer, 1968, p. 16).

In his doctoral thesis, Galloway (1962) summarized in six statements the research relating to nonverbal communication and its influence on pupils' perceptions of the teacher:

1. The meanings pupils ascribe or impute to a teacher's nonverbal messages have significance for pupil-teacher relationships.
2. A teacher has his own unique way of sending nonverbal messages.
3. A teacher's nonverbal messages, conveyed through the means of facial expressions, tone of voice, body movements, and gestures, are given meanings by pupils who feel that the teacher's attitudes and feelings are somehow revealed.
4. A pupil will attempt to determine whether there is a discrepancy or contradiction between the verbal and nonverbal messages a teacher transmits; that is, between what a teacher says verbally and what he does.
5. Pupils are constantly reading the nonverbal expressions of a teacher's behavior regardless of whether the teacher realizes it or not; moreover, pupils probably pay closest

attention to the nonverbal expressions that appear to be spontaneous and ungovernable.

6. How a teacher communicates nonverbally will determine, in part, how a pupil interprets the meaning of messages, but by the same token, an interpretation and response will be determined by the perceptual and dispositional state of the pupil.

Few studies have examined interactive nonverbal behavior outside the clinic or laboratory setting. Thus their relevance is limited by the setting and methods employed to elicit nonverbal behavior (Ekman, 1965, p. 391). There is virtually nothing available in the research literature respecting communication and interaction in E. M. R. classes. Hence, the need for the present research is apparent.

The four major ingredients that researchers agree are common to human communication are:

(1) sender
(2) message
(3) channel
(4) receiver.

This investigation considered only three aspects of the communication process; viz., sender (teacher characteristics and behavior), channel (verbal/nonverbal interaction), and receiver (learners' perceptions and their behavior).

## Behavior Exchange and Person Perception

It makes sense that the attempt of people to please others and to be liked by them usually brings them into closer agreement. Actually we are talking about environmental events that produce "satisfaction" or "dissatisfaction" (Gergen, 1969, p. 23). We are talking about the importance attached to social approval. For social approval to have its impact, it must be personalistic in character. It must be contingent on one's own behavior. If another's regard for you is not dependent on your own behavior, it becomes impersonal and irrelevant to your feelings of esteem (Gergen, 1965, p. 47). Gergen reports that very subtle indicators of approval can modify behavior. (The association with Skinner's "shaping" procedures can be noted, as well as the application of his operant conditioning theories in the interaction process.)

Approval (or encouragement in our terms) is important when one considers that children most influenced by social approval as a reinforcing agent also initiate a greater amount of interaction (Gergen, 1969, p. 31). The relationship of Gergen's findings with the Flanders' categories of accepting feeling, and giving praise, is clear. It appears that the satisfaction of pupil needs for approval and esteem are situationally dependent, that is, dependent upon how teacher and pupil view each other, on the exchange which takes place between them.

Hastorf, Schneider and Polefka, (1970, p. 3) prefer not to speak about experiences, but of ways of thinking about experiences. They are referring to perceptions of people and events. Structured perceptions are the outcome of the individual's engaging in active processing of information (Glass, 1967, p. 87). The individual selects and categorizes; he interprets and infers to achieve a meaningful world in which he can act. In seeking stability and predictability we search to perceive the invariant properties of other people. Perception both guides behavior and in turn is influenced by behavioral events (Hastorf, _et_ _al_, p. 10) -- which is simply a statement of the interaction process.

Lynch (1963), who has written on the subject of person perception and its role in teaching, cautions that there exists the possibility that the peculiar "semantic" setting of the classroom creates special problems in person perception not found in other settings. Also to be considered is the possible distinctiveness of non-verbal, "expressive" behavior in classroom settings. This lends weight to the decision to examine such behavior in the present study.

Returning to the "semantic" setting of the classroom, Barnes of the University of Leeds Institute of Education, commented in a recent issue of the Journal of Curriculum Studies (May, 1971, p. 30) that language is a major means of learning, and that the pupils' uses of language for learning are strongly influenced by the teacher's language, which prescribes to them their roles as learners (underlining added). Teachers are only partly aware of their own uses of language, and still less aware of how and to what extent classroom language determines the kinds of involvement in learning which are open to their pupils. Further, teachers may not be clearly perceptive of their pupils' uses of language. Barnes (1971, p. 31) states there is need for theory about the effect of different verbal formulations of instructions, about the contexts in which they are carried out, and about the teacher's role in such work.

Bruner has emphasized the reciprocity of learning. In reciprocal learning the learner in the very act of finding a verbal form for what he is learning receives promptings and modifications from the interlocutor's reactions and replies. Galloway's formulation of the nonverbal categories is consistent with this position.

Questions are sometimes raised about the accuracy of perceptions (Spencer, 1968, p. 3992-B). We cannot conclude that all perceptions are accurate. But it is probably safe to assume that the information a person acquires about another helps to define the situation for that person. In other words, the information utilized is "perceiver specific." For those who would argue that the E.M.R.'s perceptions are unreliable, it could be countered that owing to less fluency with language, or inexperience with verbalizing feeling, it is less a question of perceptions as it is one of expressing those perceptions.

## Teacher Behavior, Characteristics, and Effectiveness

Gage (1965) presents a summary of conclusions from research on the desirable behaviors of teachers. He reports that the field of research on teaching is widely regarded as barren of findings of positive knowledge in this respect, but that even shaky findings may have some value in our present lack of information.

Gage (1965, p. 87) does find it possible to offer the following list of "desirable" teacher behaviors (or characteristics of behavior):

(1) warmth
(2) cognitive organization
(3) orderliness
(4) indirectness, and
(5) ability to solve instructional problems.[1]

---

[1] For a comprehensive view of teacher behavior and characteristics see: Anderson (1946), Coleman (1960), Flanders (1960), Getzels and Jackson (1963), Ryans (1960, 1963).

Cogan (1950) conducted an investigation of the behavior of teachers and the productive behavior of their pupils. The study focused upon the amount of work performed by the pupils, operationally defined classroom behaviors of teachers, and the reports of pupils. These were viewed as the most important source of data concerning pupils' work and the behaviors of their teachers. Cogan found that the behaviors of teachers as perceived by the pupils influence the nature and extent of

> (1) the motivation of the pupils,
> (2) communication with pupils,
> (3) the "tone" of the classroom experiences (p. 90).

His findings provide some insight, in part, to Gage's (1965) list of "desirable" teacher behaviors mentioned above.

Penfold and Meldon (1969, p. 64) hypothesize that teaching efficiency is significantly related to a personality trait defined as 'social sensitivity.' They argue that many of the strains in teaching are caused by the difficulties in understanding children or other teachers. Social sensitivity is a factor related to stress. The main results of their study show that maturity, as determined by chronological age, was a significant factor in the understanding of children. Factor analysis showed some evidence that teaching efficiency is in fact related to social sensitivity.

Flanders and Havumaki (1963) mention the superior-subordinate relationship between teacher and pupil. They report: "Fairly strong evidence has been found to support the hypothesis about the development of dependency as an outcome of restrictive teacher domination (p. 162)." The researchers express concern about the likelihood of such dependency producing inner resistance, and consequently resentment which interferes with learning.

In a study of verbal interactions of teachers and mentally retarded pupils, Minskoff (1967) was concerned with the influence of teacher talk in promoting productive thinking in the pupils, as well as the effects of teacher and student background characteristics on the teacher-pupil verbal interactions in special classes for the E.M.R. The descriptive findings indicated that the teachers' questions were largely in the cognitive-memory category; teachers did not exercise their role in developing productive thinking in their pupils; the analysis of the teachers' statements showed that they were preoccupied with management and routine problems (p. 546A).

Blackwell (1968) investigated attitudes, personal characteristics and personality traits of teachers of the trainable retarded. Analysis of MTAI scores showed that effective teachers obtained higher scores than those rated as ineffective teachers. He found no difference between the personality traits of those teachers who are effective teachers of the retarded and those who are ineffective teachers.

MTAI

Numerous studies make use of the MTAI instrument. There has been frequent criticism about its validity as a measure of teachers' future rapport with pupils or the affective relationship between teacher and pupils. Getzels and Jackson (1963, pp. 508-522) devote fourteen pages of the Handbook review of research on teachers' personality and characteristics of studies using the MTAI. Yee (1967) conducted a study to test the assumptions of the authors of the MTAI. His findings revealed that the MTAI appears to be useful, especially for research purposes, as an indicant of teachers' attitudes towards their pupils. His study does not corroborate its use as a predictive instrument. He concludes that the MTAI does not adequately measure what it is supposed to measure, even though the MTAI appears to be homogeneous. He points out, however, that we must make a distinction between "measures" and "indicants," i.e., ...."effects or correlates related to psychological dimensions by unknown laws." Further reference will be made in a later section, to the MTAI (chapters 3 and 6).

## Pupil Characteristics and Perception of the Teacher

How the child perceives his teacher's feelings toward him has been the subject of a number of studies (Davidson and Lang, 1960; Gregersen and Travers, 1968; Marasciullo, 1969; Thompson, 1964). The general findings suggest that a child's assessment of himself is related to the assessment "significant people" make of him; that pupils become more negative in their responses toward teachers as they progress through school; that there is a decline in mean favourability index from the upper to the lower social class; that certain pupil characteristics, such as self-perception, perceived teacher feelings, achievement and behavior in school are interrelated. The significant pupil variables appear to be pupil ratings of teachers, intelligence, and achievement.

Thompson (1964) ventures an interesting explanation of the effect of pupil characteristics upon pupil perception of the teacher:

> ....within a school setting, pupils who are able to perform at a higher level in the academic area or have a potential for doing well, perceive their teachers more favorably than pupils who do poorly in school work or lack ability to do well. This is understandable, as schools place an emphasis upon academic achievement and pupils who do well are rewarded not only by favorable report cards but in other subtle ways by teachers (p. 210) (underlining added).

Could it be that these other subtle ways are communicated by means of the nonverbal channel -- an area of central importance to this study? It seems that this may well be one of the facets of the Encouraging/Restricting continuum of the Galloway analysis. The My Class dimensions gain in relevance in this context, as well. The implications for teaching-learning are clear. The extent to which the related literature and theoretical basis presented here is applicable to the special classes for the E. M. R., underlies the purpose for the present research.

### "Criterion-of-Effectiveness" Paradigms

Gage (1963) devoted an entire chapter of his Handbook to paradigms for research on teaching. The concern with theories and paradigms is aimed at furthering more systematic and orderly approaches to the formulation of the variables and hypotheses that enter into research on teaching. "Criterion-of-Effectiveness" paradigms overwhelmingly have dominated research on teaching. Beecher (1961) in Gage (1963, p. 115) impressively displays the fruits of the criterion-of-effectiveness paradigm. By teacher "effectiveness" is usually meant the teacher's effect on the realization of some value. Hence, the ultimate criterion of a teacher's effectiveness is usually considered to be his effect on his pupils' achievement of such objectives.

Mitzel (1957, in Gage, 1963, p. 119) in an effort to seek refinements in the simple, but relatively fruitless, effectiveness paradigm, refined the Criterion-of-Effectiveness Paradigm. Mitzel included four types of variables or "classification of information."

| Type 1 | Type 11 | Type 111 | Type IV |
|---|---|---|---|
| Prediction Sources | Contingency Factors | Classroom Behaviors | Criteria of Effectiveness |

This author's research falls within Type III variables -- i.e., classroom behaviors of teachers and pupils. In the view Mitzel has adopted, the complex of pupil-teacher interactions in the classroom is the primary source to which one must look to account for pupil growth. It is through the intercession of Type III variables that Mitzel saw the best hope of improvement in teacher effectiveness research (p. 120). Many scientific problems have eventually been solved by being analyzed into smaller problems, whose variables are less complex.

## "Micro-criteria" of Effectiveness

Rather than studies of teacher effectiveness, and effectiveness criteria, we may make better progress if we develop "micro-criteria" of effectiveness. For a number of reasons, research has turned away from "effects on pupil achievement" as a criterion (p. 120.) It will be remembered that formerly criteria involved with effectiveness were defined as the teacher's effects on pupils' achievement of educational objectives.

Mitzel uses the term process criteria, or "aspects of teacher and student behavior which are believed to be worthwhile in their own right," and these are the Type III variables of his paradigm. If process variables are to be sought, we come into contact with paradigms of teaching behavior. Reference has been made above to one such example -- the Smith (1961) paradigm.

### A Model of Interaction and Influence

In order to set a general frame of reference to deal with the problem in this thesis, a model (Figure 3) has been constructed to conceptualize the relationships between and among the factors enumerated as X variables and Y variables. The model is adapted from Mitzel (1957, in Gage, 1963, p. 119).

The model illustrates that teacher behaviors are a function of a number of variables listed under prediction sources. These include attitudes, intentions, and background characteristics. Each of these factors operating alone or in combination with others directly affects teacher classroom behaviors and interaction. The interactive process, which has a direct bearing on

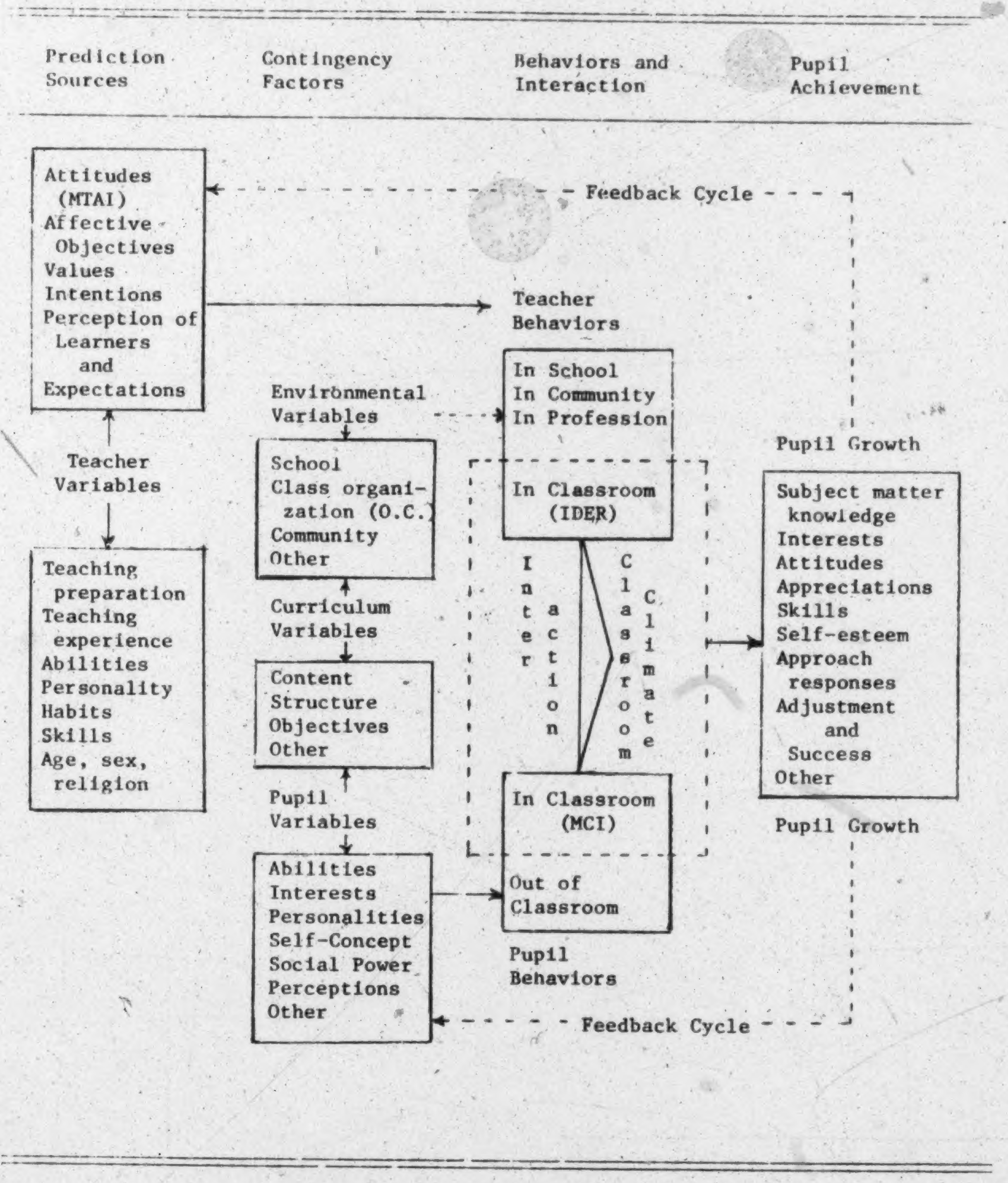
Prediction Sources
Contingency Factors
Behaviors and Interaction
Pupil Achievement
Attitudes (MTAI)
Affective Objectives
Values
Intentions
Perception of Learners and Expectations
Feedback Cycle
Teacher Behaviors
Teacher Variables
Teaching preparation
Teaching experience
Abilities
Personality
Habits
Skills
Age, sex, religion
Environmental Variables
School
Class organization (O.C.)
Community
Other
Curriculum Variables
Content
Structure
Objectives
Other
Pupil Variables
Abilities
Interests
Personalities
Self-Concept
Social Power
Perceptions
Other
In School
In Community
In Profession
In Classroom (IDER)
Interaction
Classroom Climate
In Classroom (MCI)
Out of Classroom
Pupil Behaviors
Pupil Growth
Subject matter knowledge
Interests
Attitudes
Appreciations
Skills
Self-esteem
Approach responses
Adjustment and Success
Other
Pupil Growth
Feedback Cycle

Figure 3

Framework for the Study of Teacher Behavior and Influence on Pupil Growth.

pupil perceptions, influences approach responses or avoidance responses, that is, classroom climate.

In this study the emphasis is upon teacher behavior and its influence on the social-emotional climate of the classroom as perceived by the pupils. The model recognizes the importance of contingency factors which include environmental, curricular, and pupil variables. It has been pointed out earlier that studies have revealed that the influence of environment and curriculum in the classroom context is largely created by the teacher.

The important feature of the model is highlighted by the dashed arrows which include a transaction, or behavior exchange which makes up the social act called teaching (Gergen, 1969). The analysis of teacher behavior in the present research focuses upon the communicative interaction bounded by the broken lines of the rectangle.

While it is acknowledged there are numerous other elements included in the model which will not be examined in this investigation, they have been incorporated here as a reminder of the complexity of pupil growth and achievement. Those elements which have been singled out for specific consideration have been chosen with a view to answering the following research questions:

## Research Questions

1.0 What attitudes do teachers in opportunity classrooms have towards children and teaching?

1.1 Is there a significant difference between MTAI scores of special education teachers and mean scores as set forth in the normative data for the MTAI instrument?

2.0 What teacher-pupil interaction patterns exist in various opportunity classes, as described by the Flanders-Galloway observational systems?

2.1 Is there a significant relationship between the teacher's verbal and nonverbal classroom behavior as measured by Flanders-Galloway categories systems and the MTAI scores of the special class teacher (opportunity class)?

3.0 How do elementary school E.M.R. children perceive the social-emotional climate in different opportunity classes?

3.1 Is there a significant relationship between the dimensions of the My Class Inventory and teachers' attitudes as measured by the MTAI?

4.0 What relationship exists between IDER results of Flanders-Galloway and climate scores of the MCI?

5.0 Is there a significant relationship between teacher characteristics and IDER of Flanders-Galloway matrix?

5.1 Is there a significant relationship between the teacher's characteristics and the dimensions of the MCI?

# CHAPTER 3

## RESEARCH DESIGN, METHODS AND PROCEDURE

The study involved two populations -- opportunity class teachers and elementary school E.M.R. children between the ages of six and twelve. The forty-one primary and junior opportunity class teachers in the Edmonton Public and Edmonton Catholic Schools were invited to participate in the research (Appendix 1 and 1a). None of the teachers in the Edmonton Catholic Schools was able to volunteer, owing to commitments to other research studies in which they were involved. Twenty-seven classes in the Edmonton Public Schools, therefore, comprised the special class teacher population. Of this number twenty-one volunteered for the study -- an 80% response. Of the twenty-one, twelve were selected -- two for a pilot study, the remaining ten for the major study.

### Design

The research design, consisted of four steps. First, a sample of ten teachers was selected from the pool of volunteers on the basis of certain background factors like age, sex, training, and experience. The ten were chosen using the procedure of stratified random selection by replacement. Two others, one a primary and one a junior opportunity class teacher, were selected for a pilot study. Of necessity, randomization cannot be claimed on behalf of the learners who comprised the overall groups being studied.

Second, the Minnesota Teacher Attitude Inventory (MTAI) instrument, as well as a teacher questionnaire intended to tap teachers' perceptions of their task, were administered to the entire volunteer group. In addition, two teachers' perception rating forms for assessing both individual learners and the class group as a whole, were administered. Rating form items were based on the My Class Inventory (MCI). (Appendices 2, 3, 4, 5).

Third, following completion of the pilot study (reported below), classroom interaction in each of the ten classes selected for the major study, was recorded for one hour per week in each of four succeeding weeks. Coding procedures as prescribed by Flanders (1967) and Lail (1968) were used for the twenty combined categories of Flanders-Galloway Interaction Analysis (Appendix 6).

Fourth, the MCI was administered to the 114 pupils in the ten classrooms. This inventory is a paper-and-pencil instrument which, owing to E.M.R. children's reading difficulties, was presented by the researcher's reading it individually and privately to each of the pupils (Appendix 7, 8). A number of open-ended questions were also presented to the children to determine the correspondence of these responses to their MCI responses (Appendix 9). Answers to the questions were tape recorded for subsequent analysis and classification.

A classification table for the various characteristics of teachers in the sample is presented in Appendix 10. MTAI results, and summary of responses to the teacher questionnaire and rating forms are displayed in tables elsewhere, as are results of the MCI and taped responses.

Summary data of the interaction matrices (IDER) and computed ratios appear in Chapter 5. Data for individual classes in the sample are displayed in a number of appendices, attached.

## Methods

Prior to the launching of the pilot and major studies, letters outlining the proposed research were sent to the prospective participants (Appendix 1c). The twenty-one who volunteered were contacted by mail to outline their role in the research work (Appendix 1c and 1d). Personal follow-up visits to principals and teachers were made in each instance.

A stratified random sample by replacement to secure ten classes, was drawn from the pool of volunteers. The investigator wished to obtain a sample which included teachers of both primary and junior opportunity classes, schools located in a variety of socio-economic neighbourhoods, schools with distinctive organizational patterns, both experienced and inexperienced special class teachers, degree and non-degree teachers, and teachers falling within a cross section of age ranges. This was accomplished, and a schedule of visits was prepared to enable the trained observers of verbal and nonverbal teacher behavior to code the interaction and communication patterns in the classroom over a four to five week period -- during different times of the day, and on different days of the week, involving various subject areas of the curriculum. The main concern was to achieve a pre-determined built-in variability.

The coded interaction data were recorded on IBM General Purpose Answer Sheets (No. 1) to produce punched IBM data cards for computer analysis, and a display of the data in a 20 x 20 IDER (Indirect-Direct-Encouraging-Restricting) matrix (Appendix 11).

Early in the investigation the teachers were asked to complete the MTAI on a specially designed response sheet which lent itself to optical scoring procedures and transfer to IBM punched data cards

(Appendix 12). At the same time the teacher questionnaire was presented to the teachers for them to complete at the end of the study.

Upon completion of the data collection for the major study, the MTAI instrument was administered to a further 164 teachers of special education classes for the deaf and the hard of hearing, the emotionally disturbed and the physically handicapped, adaptation classes for the neurologically and perceptually impaired, and senior opportunity classes in a large self-contained vocational school for the mildly retarded. Returns were received from 149 teachers, a 90.8% response. Combined with the twenty-one in the volunteer group, this gave a total of 170 subjects in the sample. The purpose for widening the base of the MTAI sample was influenced by a secondary interest in obtaining a comparison group of special education teachers generally, and to permit a factor analysis of special class teachers' responses to the MTAI. These findings are reported in a later chapter.

During the course of the scheduled visits to the classes in the sample, a satisfactory level of interrater reliability having been established, the trained observer not actively engaged in coding classroom interaction administered the MCI instrument and open-ended pupil questionnaire privately to the pupils, reading the items separately to each individual. Upon completion of the inventory, the set of prepared questions and their responses were tape recorded for later analysis and classification.

In addition, a daily log was kept of the various classroom activities during the one hour visits for all ten classes.

## Pilot Study

In order to give some direction for the study proper, a pilot study was undertaken with two opportunity class teachers -- one primary, one junior -- drawn at random from the remainder of the pool of volunteers. Characteristics of the two teachers were markedly different -- one held a B.A., B.Ed., the other had completed the third year of a four year B.Ed. program. The former was in her mid twenties, the latter in her mid fifties. Both were certified in 1966. The older teacher, with five years special class experience, scored at the 85th percentile rank (PR) on the MTAI, twenty-three percentile ranks higher than the younger teacher's PR of 62 -- the younger teacher was in her first year of special class work. Classroom observation (mostly subjective) by the researchers did not support the attitudes and behavior one would have associated with the higher MTAI results of the primary O.C. teacher.

Observation periods were conducted at various times of the day over a period of five consecutive days, as opposed to five weeks duration for the ten classes in the subsequent major study.

The impact of the pilot study can be summarized in the following points:

1. The original procedure selected for recording observed interaction on the IBM General Response Sheet was found to be unsatisfactory for the computer program being developed to construct the matrices. The twenty columns of the IBM form to represent the twenty categories of the Flanders-Galloway were employed to code every three seconds one of the twenty possible decisions, as opposed to two columns of ten using a subscripting procedure to distinguish verbal from non-verbal events.

2. The method for indicating a change in classroom activitiy had to be modified. Considering that no events ever occurred in Category 11, then Column 11 was used to show the frequency of shifts in instruction by blackening in three consecutive rows of that column.

3. Administering the MCI to pupils individually in the classroom created distraction problems (chiefly for the teacher). Therefore in future sessions children were removed from the room for this purpose.

4. Based on the experience of administering the MCI, a related difficulty was discovered -- children appeared reluctant to respond to the open-ended questionnaire being tape recorded, while in the presence of the teacher and other children.

5. In future sessions both MCI and taped responses were carried out privately outside the classroom. It was also found

that best results were achieved when the MCI was followed immediately by the tape recording session. The researchers were able to capitalize on the initial rapport established for the MCI administration.

6. The researchers gained considerable experience in maximizing limited time available in maintaining a tight schedule of visits involving distances of ten miles between some schools.

7. The experience gained in the pilot study was particularly instructive in demonstrating the need to avoid attending to activities themselves (often extremely interesting) or of interacting with learners themselves.

8. A related finding derived from the pilot study was the importance of avoiding the danger of feedback to the teachers -- feedback which could well contaminate future teacher behaviors influenced by presumed researcher expectations.

## Instruments

As noted above two aspects of life in the classroom were investigated.

(1) Teacher attitudes and behavior, as measured by the MTAI, and Flanders System of Interaction Analysis in combination with Galloway's Analysis of Nonverbal Communication, producing a single matrix designed to yield an IDER (Indirect/Direct, Encouraging/Restricting) series of ratios. Flanders system provides information on what is said, and Galloway's analysis deals with how things

are said.

In order to preserve the capacities of the Flanders matrix when plotting both verbal and nonverbal behaviors using the IDER system, a matrix approaching three dimensionalism has been conceptualized (French and Galloway, 1968).

(2) Pupil perceptions of the social-emotional climate of the classroom, as revealed by response to the MCI, both primary and elementary forms. Item mean scores give an indication of the degree of perceived positive or negative affectivity in the class. The instrument is designed to yield scores on five subscales: Satisfaction, Friction, Competition, Difficulty, Intimacy. Two rating forms based on the MCI were designed by the author for comparison purposes with learner responses on the parent instrument -- viz., the MCI.

## Description of Instruments

### 1. Minnesota Teacher Attitude Inventory

The authors claim that attitudes of teachers toward children and school-work can be measured with high reliability (Cook, et al, 1951). The MTAI is designed to measure those attitudes of a teacher which predict how well he will get along with pupils in interpersonal relationships. A teacher ranking at the high end of the scale should be able to work together with pupils in a social atmosphere of cooperative endeavour with mutual respect for the feelings, rights, and abilities of others.

At the other extreme of the scale is the teacher who attempts to dominate the classroom, often creating an atmosphere of tension, fear and submission, where both teacher and pupils frequently dislike school work.

According to the authors of the inventory, attitudes measured by the MTAI afford a key to the prediction of the type of school atmosphere a teacher will maintain in the classroom. Teacher-pupil attitudes are considered as important indicators of the teacher's classroom behavior.

The authors of the MTAI conclude: if we assume that by the term "teaching personality" we mean those characteristics of the teacher's behavior related to the emotional responses of pupils and the ability to establish intimate and harmonious working relations with them, we find that "teaching personality" can be measured with as high validity as can academic aptitude" (Cook, et al, 1951, p. 12). The reliability of the MTAI, as determined by the Spearman-Brown split-half procedure, was found for a random group of 100 teachers of grades 4-6 to be .89.

### 2. Flanders System of Interaction Analysis

The Flanders system is concerned with verbal behavior only. The assumption is made that the verbal behavior of an individual is an adequate sample of his total behavior (Amidon & Flanders, 1967, p. 6).

Teacher statements are classified as either indirect or direct. This classification gives central attention to the amount of freedom the teacher grants to the student. Flanders' system also provides for the categorization of student talk. A third major section, that of silence or confusion, is included. It accounts for the time spent in behavior other than that which can be classified as either teacher or student talk.

In all there are ten categories. Indirect influence consists of four observation categories: (1) accepting feeling, (2) praising or encouraging, (3) accepting ideas, and (4) asking questions. Direct influence is divided into three categories: (5) lecturing, (6) giving directions, and (7) criticizing or justifying authority. Student talk is divided into two categories: (8) responding to teacher, and (9) initiating talk. All categories are mutually exclusive; yet together they are totally inclusive of all verbal interaction occurring in the classroom.

The Flanders system of interaction analysis was originally used as a research tool and continues to serve that function (Amidon & Flanders, 1967). As such, it is employed by a trained observer in order to collect reliable data regarding classroom behavior as a part of a research project.

There is a method of recording the sequence of events in the classroom in such a way that certain facts become readily apparent. This method consists of entering the sequence of numbers in a 10-row by 10-column table, called a matrix. The generalized sequence of the pupil-teacher interaction can be examined in this matrix. From this a description of the classroom interaction is developed. It should be pointed out, however, that meaningful interpretation of a matrix can be made only in terms of a teacher's specific teaching objectives.

### 3. Galloway Nonverbal Communication Scale

Teachers convey information to students through nonverbal behavior. Nonverbal reactions are especially prominent for the formation of attitudes since they stem from unwitting responses. Nonverbal cues influence perception (Galloway, 1968a). In view of Galloway's belief that there is a significant relationship between teacher attitude and nonverbal behavior[1], and the researcher's interest in the effect of this behavior on pupils' perceptions, it appears promising to analyze classroom interaction from a nonverbal point of view.

The exchange of messages that are nonverbal in character often play a more significant role in student learning than the formal teaching which takes place. Once the message is decoded by the receiver, it has reached a destination which can be considered the response, interpretation, or meaning the receiver assigns to the message. Such meaning is seen as idiosyncratic, serving as the bases for pupil perceptions of the learning environment, and the high inference variables mentioned earlier.

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[1] Galloway, C. M. Personal Communication. January, 1971.

The teacher's nonverbal behavior constitutes a model representing six dimensions of nonverbal activity on a continuum ranging from encouraging to restricting communication, as follows:

TEACHER COMMUNICATION

| Encouraging | Restricting |
|---|---|
| Congruity | Incongruity |
| Responsive | Unresponsive |
| Positive Affectivity | Negative Affectivity |
| Attentive | Inattentive |
| Facilitating | Unreceptive |
| Supportive | Disapproving |

Viewing a teacher's nonverbal communication as an encouraging to restricting continuum has the advantage of indicating subsequent interpersonal relationships between a teacher and his pupils. The model is useful in regarding the potential influence and consequences of a teacher's nonverbal behavior with pupils. It permits the examination of contact conditions and contact consequences. This conceptualization reflects a process evaluation point of view.

It may well be that process factors are the more critical ones involved in pupils' learning, as opposed to variables involving individual pupil characteristics like IQ, and neurophysiological status. Process factors embodied in the Teacher Communication Model and the Flanders-categories underlie the writer's concern with psycho-educational influences.

The addition of the nonverbal categories to the Flanders system makes it much more useful in analyzing actual classroom activity. The combination of matrix analysis, pattern analysis, and nonverbal analysis gives a good picture of the teacher's behavior (Lail, 1968). For these reasons the combined categories of Flanders and Galloway have been chosen. They are set forth in Appendix 6, attached.

### 4. My Class (Learning Environment Inventory) -- Anderson

Student behavior and student perceptions can do much to increase our understanding of the factors affecting pupil learning in school classes. Pupils themselves are considered to be in the best position to assess their own learning environment, particularly as observer ratings have failed to provide valid measures of "high inference" variables within the class.[1] The My Class is an instrument designed to measure the social climate of learning of a class as perceived by the pupils within it. It is a group test, and is very easily administered in a short time. This is an important consideration in its use with E.M.R. youngsters.

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[1] Anderson, G. J. Personal Communication, January 1971.

The elementary and primary versions of My Class include five of the original fifteen scales developed for the parent instrument, the Learning Environment Inventory devised by Anderson and Walberg for use with the Harvard Physics Project, 1968. The five scales are: Intimacy, Friction, Difficulty, Competition, and Satisfaction. These dimensions which taken together to give a climate score, have been found to be related to the personality of the class teacher (Walberg, 1968). Whether this obtains for special class teachers and opportunity classrooms remains to be seen from this research. The investigator has chosen the My Class instrument on a try-out basis to test its usefulness with elementary school E.M.R. children. The instrument has been used with some success in Boston schools to assess the success of certain compensatory programs (Walberg, 1969).

## SUMMARY

Research design, methods, and procedure have been discussed. A sample of twelve teachers was drawn from a volunteer group of twenty-one primary and elementary opportunity class teachers. Certain criteria pertaining to age, training, qualifications, and experience were applied in the stratified random selection by replacement procedure. 114 E.M.R. children in ten classes between the ages of six and twelve comprised the classroom groups being studied.

The MTAI instrument and a teacher's perceptions questionnaire devised by the author were administered to the entire voluntary group. In addition the teachers in the sample were asked to complete rating forms based on Anderson's MCI instrument, to tap their perceptions of both individual learners and the class group as a whole.

Prior to undertaking the major study, a pilot study was conducted using two opportunity class teachers -- one primary, one junior, drawn at random from the remainder of the volunteer group.

Teacher-pupil interaction and communication patterns in the ten classrooms of the major study were coded for one hour per week in each of four succeeding weeks. One of twenty possible decisions (categories) as outlined by Flanders-Galloway Interaction Analysis was recorded every three seconds. Inter-rater reliabilities were calculated, using Scott's Pi Coefficient. A 20 x 20 IDER matrix of the 30, 746 recorded events was constructed to permit analysis of the data.

The MCI was administered individually to each of the children in the ten classrooms. In addition an open-ended questionnaire was given to the children to determine the correspondence between their responses on the MCI and those on the tape recorded questionnaire responses.

A daily log was kept throughout the study, of the various classroom activities during the one hour visits for all ten classes.

Upon completion of the data collection for the major study, the MTAI was given to an additional 164 teachers of special classes for children with a variety of disabilities. The wider MTAI sample was used to permit a factor analysis of special class teachers' responses on this instrument.

# CHAPTER 4

## DESCRIPTION OF THE SAMPEE AND RESEARCH SETTING

One of the purposes of this study outlined in Chapter 1 was to describe as completely as possible a number of opportunity classroom learning environments in relation to certain teacher characteristics, goals, and attitudes. The major study was comprised of a stratified random sample of ten special class teachers exhibiting a wide range of variability on a number of factors. These are summarized in tabular form and set forth in Appendix 10.

Two teachers were in their twenties, three in their thirties, two in their forties, two in their fifties, and one over sixty. All were female. One received her teaching certificate in 1929, one in 1936, one in 1941, three in the 1950's, three in the 1960's, and one in 1970. Three teachers had no previous experience in regular classes, three had two to five years, two had six to ten years, and two had over ten years. Two were completing their first year of special class teaching, four had two to five years, two had six to ten years, and two had over ten years experience. Qualifications ranged from one year of teacher preparation to a Master of Arts in Special Education. Three teachers held undergraduate degrees. The remaining six had, on the average, two years of teacher training.

## Research Setting

The opportunity classroom provided the setting for observing teacher behavior, teacher-pupil interaction, and social-emotional climate. Classes were located in schools with a variety of administrative philosophies and attitudes, and organizational patterns, in distinctly different geographical areas of Edmonton, Alberta. The opportunity class enrolments varied from a low of eight to a high of fifteen. The average primary class size was ten; the junior class, twelve.

Two primary classes enjoyed a unique arrangement made possible by being located in a new open area school in its first year of operation. The two teachers teamed into a partnership for planning and managing the daily schedule being carried out in a self-contained open area which accommodated twenty-six pupils. The space was equivalent to two full-sized classrooms. Contrasted with this situation was the school in which the primary special class was very isolated. Another primary class was located in a school known for its innovative programs and experimental approaches to education. This particular class had a first-year teacher who operated the classroom on a contingency management procedure, using learner contracts and individually programmed, or prescribed, instruction. In the fifth primary class there was much evidence of project-centered teaching, examples of the children's work, a multitude of living and growing things. One was immediately struck by the particular effect which had been created -- an invitation to learning.

Two junior classes were located in very old buildings -- one an inner city school, the other on the periphery of an airport. Another class was situated in a school having four other special class teachers, in a light industrial area of a working-class community. The remaining two classes were located in reasonably new structures, surrounded by a quiet middle-class residential area. Of the first two classes mentioned, one was taught by an individual from another culture. This class was the smallest in the study, with an enrolment of eight. In the other of these two classes, noticeable for its structured instruction, a point and reward system was in use for the core subjects. It was a large class, and the children were from very poor, often inadequate homes. The third class, also a large one, was part of what might be considered a "school within a school," surrounded as it was by four other special classes. The teacher of this class, a middle-aged woman, was only in her third year of teaching, having qualified in 1968. Of the two remaining classes, one was as informal as the other was highly structured. One room was as large as the other was small. The small classroom had the larger enrolment, and the fifteen learners were noticeably older. There was barely enough room for the teacher to get about; but she used the space most effectively. In this school a very strict regime was maintained. There were two other special classes in the building. By contrast, the last class was in a school which encouraged freedom. The atmosphere was relaxed -- a pleasant place to work and visit. This school, a detached unit of a Junior High-Elementary School, was under the supervision of the vice-principal -- a personable young man with a genuine liking for young people.

## Teachers' Perceptions of Their Task

Appendix 3 sets out a series of ten questions intended to tap teachers' perceptions of their task. As an open-ended questionnaire, it was devised to encourage special class teachers to respond freely to a structured inquiry which was believed to have importance when analyzing teacher behavior and influence. It was believed that valuable insights could be gained of the teacher's modus operandi in relation to stated goals, role perception, motivation, and task analysis. Responses to the questionnaire were both frank and revealing. Appendix 13 lists the details of the teachers' responses. The major points are summarized below. At this point, comparisons will not be made with the empirical findings of the interaction IDER matrices data, presented in Chapter 5.

Teachers reported their reasons for deciding to teach in E.M.R. classes as partly a response to unmet needs of slow learners, concern about their failure to learn to read, and partly their dissatisfaction with the constraints of programming and structure in regular classes. Empathy with a group of learners "nobody else wanted," who experience rejection and the "stigma of stupidity" served for some as a basis for identification with slow learners. One teacher expressed the sentiment that the child's need for a special teacher, "makes me special." Other teachers favoured smaller classes, more freedom, shorter working hours, and the incentive bonus. Another teacher was motivated by curiosity. An interesting statement by one of the junior class teachers indicated her being struck by the contradiction of how children could be useful and responsible in their homes, but unable to cope with the prescribed school program. She felt she wanted to do something about it.

In respect to specialized courses, it was found the majority reported little special training. On the average, teachers had taken one to two courses in special education. Some teachers claimed no special training -- just common sense and imagination.

The view was expressed that children are all the same -- the E.M.R. are just like other children. Another teacher claimed her experience in an ungraded country school with its many groups, served as a specialized sort of preparation. At the other extreme, as mentioned earlier, one teacher held a Master's degree in special education.

Factors which influenced the decision of some teachers to come into special education included the teacher's belief in herself as a good teacher. One teacher suggested that she wanted to challenge the notion of "poor dears who need love, and an arts and crafts curriculum." Exposure to special class children in the school in which another teacher was working, or "next door influence" prompted the teacher to ask for a transfer to teach the class, in the hope that such a move would facilitate the E.M.R.'s integration into certain areas of the school's program.

Teachers were asked to identify those aspects of their job which they felt were different from that of the regular class teacher's. The special class teacher perceived the work as more demanding, requiring individualization and different methods. A number of teachers cited the increased involvement with parents and family problems. Contrasted with the view that the same goals apply to special classes, and that instruction should be as similar as possible to regular classes, was the view that the special class children are not expected to complete a certain curriculum -- as is prescribed in regular classes. Some teachers reported less emphasis on academic courses and more on vocational courses and creative work. A number of teachers singled out the necessity for considerably more preparation time. One teacher claimed that you get to know the children better. Another suggested the need for more flexibility, and a tolerance for more noise and behavior problems. A major difference identified was the longer period of direct influence -- four or five years with the same children in the special class as opposed to one year's influence of a regular class teacher. Finally, the need to protect the E.M.R. children from the rejection and prejudice of many regular class pupils and teachers was mentioned. In fact, one teacher used the term "conditioning" against negative influences.

When teachers were asked to think about the similarities between their teaching assignment and that of the regular class teacher's, a fairly narrow range of responses was noted. The usual answer relating to the teaching of the 3 R's, the transmission of knowledge, the setting of certain academic and behaviour standards, and developing the learner's maximum potential were given.

One of the items on the teacher questionnaire sought to determine the objectives set out by the Edmonton Public School Board for special education classes. Replies to this item revealed that certain teachers had no notion of what the Board expected. One teacher expressed the view that the Board had confidence that teachers are efficient in innovating proper programs to insure continuous and maximum achievement for each child. One teacher believed that her task was to get these children up to a Grade Four level, so they could get into the special vocational school for senior E.M.R. pupils (over the age of thirteen), and learn a trade. Others expressed the opinion that there was no difference in the goals for E.M.R., that they are the same as for all pupils in the elementary school. Some teachers reported that they had not been given any goals formally, but that it had been stated one-half year progress for each year in the special class would be a reasonable objective. A surprising answer given by one teacher stated that she hadn't had the time nor the ambition to find out the goals set by the School Board.

In response to the question of the special class teacher's own goals for E.M.R. children, a wide variety of ideas was noted. These ideas ranged from personal happiness for the child, independence for the child, development of an inquiring mind, and good attitudes toward school and academic studies. One teacher indicated a missionary goal of inspiring her pupils to live in harmony with God, themselves, and others. Most answers reflected the teachers' desire to promote success experiences, self-worth, and preparation for adequate adult functioning. A number of teachers felt the need to get as many of the pupils back into regular classes as possible, to reintegrate them into the mainstream of the elementary school. Concern was expressed that intellectual development not be neglected for social development, or therapeutic arts and crafts.

A subsidiary question to teachers' own goals for the E.M.R., was one that asked how these goals differ from, or coincide with, those of the elementary school. Seven teachers replied they saw no difference. Two said they did not know. Another saw no difference, but said that the methods to achieve the goals differ.

Asked what can be realistically expected of the E.M.R. child, it was generally conceded he can become a useful citizen, obtain a job, and work with the average person. It was noted he will be less noticeable as an adult, capable of leading a normal family life -- and, becoming the parent of more of these children. An encouraging note was sounded in always expecting a little more of the child than he is giving. Some teachers cautioned against over-protection and pampering; some stressed the need to learn to follow rules. Others stated E.M.R. children should be taught facts and respect for other's feelings and property.

Teachers were asked what perceptions they had of their status as special class teachers. Answers varied from "nothing special, apart from one with a good deal of patience," to "equal status -- much the same as the regular class teacher." It was observed that the former image of teaching children who are useless burdens is changing to one of regular class teachers investigating and applying methods which have been proven useful in the special class. One teacher admitted the status problem lay within her own thinking, whereas another complained of the low esteem in which the school principal held special education teachers. The suggestion that there is something wrong with a teacher wanting to work with "dummies", was mentioned.

Special problems or obstacles as seen by the teachers, centered around the lack of a teacher aide, having to prepare so much teacher-made materials, and confusion over so much conflict in ideas of how to teach special education. Labels applied to the children troubled some teachers. It appeared from one teacher's opinion that "our own administration has no clear idea of what special education means." A frequent complaint concerned the lack of opportunity to "get away" from the students, owing to an unbroken day of supervision. The claim was made that teacher and pupil need to have time away from each other. A number of teachers registered their disappointment with the apathy of parents, and their disinterest and lack of understanding of the child. Other teachers referred to the cruelty of the other children in the regular classes, as well as the stigma and insult which often attaches to both learner and his teacher. One teacher observed a deep concern for the children's own bitterness and resentment.

Answers to what successes the teacher found most satisfying included a child's happy and confident smile, fewer tearful incidents, and the fact that a genuine friendship was possible. One teacher stated that she was not sure any success existed, but that she sought satisfaction in concentrating on, and developing reading skills. Another teacher took counsel in that having the best behaved class in the school, she was satisfied in knowing that no other teacher could refer to her class as the "animals." The statement was made that the major source of satisfaction lay in overcoming other teachers' attitudes.

Aspects of special class teaching that were found to be most discouraging, or disappointing, were the set backs to the teacher's ego, and the program, when her approaches did not work. The sense of having come to a blank wall was registered as most distressing. A number of teachers confessed their dissappointment at not being better qualified -- a sentiment related to their sense of failure as a teacher. Three teachers expressed discouragement with unhappy home situations which contributed to undermining the teacher's efforts. One complaint concerned taking new children into the class which had settled in, half way through the year. Lastly, the complaint was made that "the blind are leading the blind" until in-service workshops with proven professionals can help teachers develop the skills that are needed. The same teacher experienced discouragement in trying to get action to have a child reassessed for placement, or transferred.

Teachers were vocal in their suggested alternatives to ways in which the children could be better served. In a number of instances teachers were critical of policies affecting special classes. In particular they argued that children should not be bussed to schools away from their friends and home community. There was a call for more careful screening of special education teachers with emphasis on better training, and upgrading. The most commonly mentioned item was integration. Over half the teachers supported integration of their children into curriculum areas of music, art, social studies, and the study subjects. Some favoured partial integration, others complete integration, with a special back-up class or teacher. Teachers asked for closer supervision, extra help from the central office in planning and executing the educational program. Other comments included: avoid several years with the same teacher; initiate more remedial work in the regular grades with borderline cases; work the special class teacher right into the system, and stop exaggerating differences by building on similarities.

# CHAPTER 5

## FINDINGS OF IDER SUMMARY MATRIX

It is the purpose of interaction analysis to preserve selected aspects of classroom interaction through observation, encoding, tabulation, and then decoding. The ultimate goal of the study of teacher influence in the classroom is to achieve understanding of teacher-pupil interaction, and to determine the relationship between the behavior of the teacher and such outcomes as pupils' attitudes and classroom climate. The examination of the resulting psycho-educational influences is essentially one of process evaluation.

Coded events of verbal and nonverbal teacher behavior, using the combined Flanders-Galloway categories systems, are displayed in the IDER Summary Matrix (Table 5-1) for the ten teachers in the study. The IDER Matrix is composed of data on low inference variables. Low inference variables require a minimum of observer judgement or speculation about the nature of the events observed.

Trained observers made one of twenty judgements (corresponding to the twenty categories) every three seconds during the coding sessions in each of the ten opportunity classrooms. Inter-rater reliabilities of

## TABLE 5-1

## IDER SUMMARY MATRIX AND RATIOS

←Categories→

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | SUM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1- | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| T | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| C | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| R | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 2- | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| T | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| C | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
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| R | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 18- | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| T | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| C | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| R | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 19- | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| T | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| C | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| R | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 20- | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| T | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| C | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| R | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| SUM | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| T | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

(Columns and Rows 1 to 20 represent the twenty categories)

T = % of all events

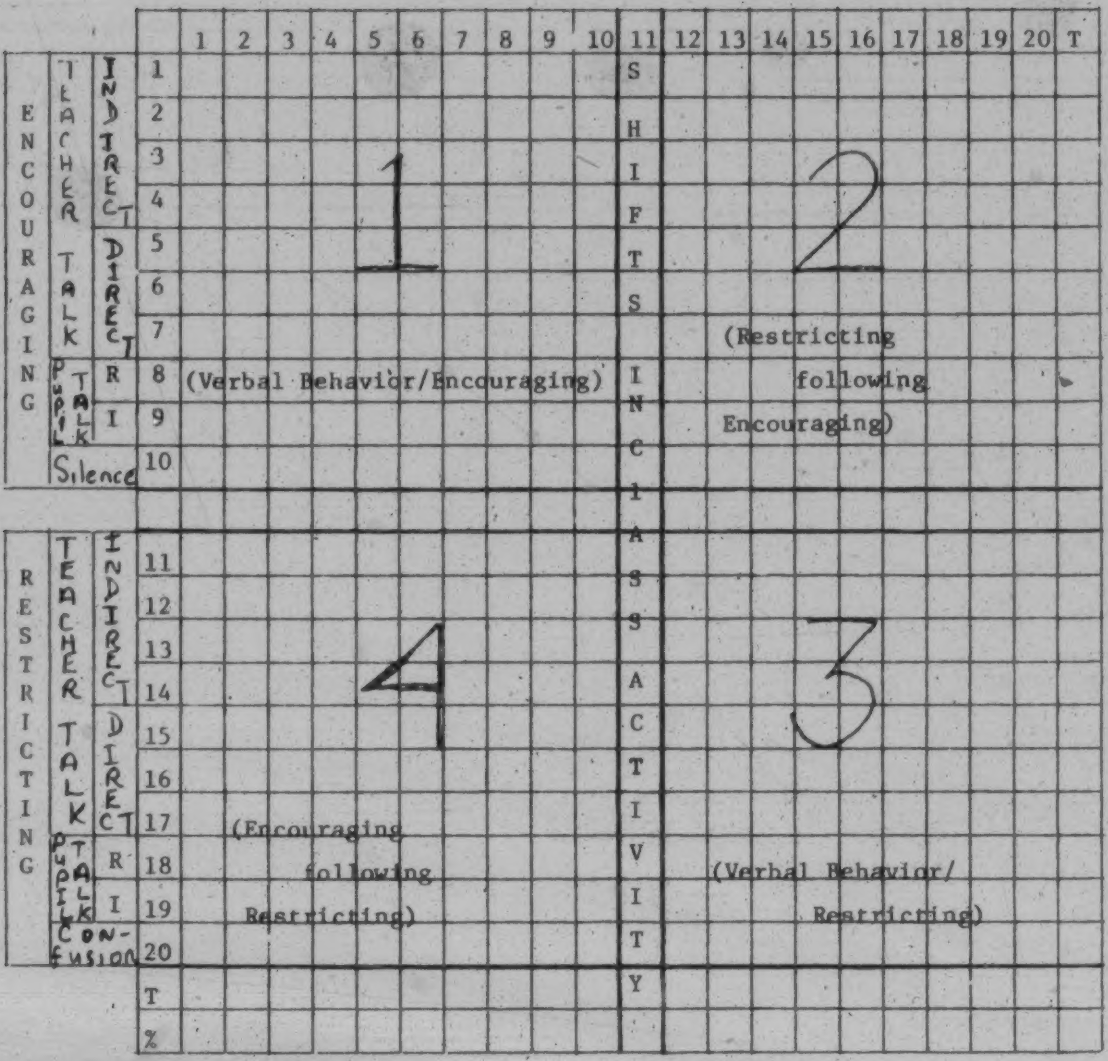
*C = % of all column totals

R = % of row totals

randomly selected sessions throughout a period of five weeks, were computed. These are reported in Appendix 15. Mean inter-rater reliability for the investigation showed 89.69% observer agreement.

To interpret data provided by the IDER Matrix, it is necessary to know that numbers one through ten represent Flanders' verbal categories when they are accompanied by encouraging nonverbal cues; numbers twelve through twenty represent categories two through ten accompanied by restricting nonverbal events; number eleven is used to record the frequency of change of classroom activities. Owing to the fact category one (accepts pupil feelings and show understanding) has no counterpart in the restricting categories it is not repeated (See Appendix 6).

The four quadrants of the matrix, as shown in Figure 4, provide four distinct areas for study. Quadrant 1 of the matrix provides data regarding verbal behaviors consistently accompanied by encouraging nonverbal cues. Quadrant 3 supplies data regarding verbal behaviors consistently accompanied by restricting nonverbal messages. Quadrants 2, and 4 provide insight into patterns of behavioral transition, i.e. restricting cues following encouraging cues, and encouraging cues following restricting cues, respectively.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19
20
T
ENCOURAGING
TEACHER TALK
INDIRECT
DIRECT
PUPIL TALK
R
I
Silence
RESTRICTING
CON-FUSION
SHIFTS IN CLASS ACTIVITY
%
(Verbal Behavior/Encouraging)
(Restricting following Encouraging)
(Encouraging following Restricting)
(Verbal Behavior/ Restricting)

Figure 4

Indirect-Direct, Encouraging-Restricting (IDER) Interaction Matrix

IDER Matrix Ratios to be discussed in this chapter are shown in Figure 5. The matrix data and ratio values provide the basis for a description of the classroom interaction. Other data of importance in interpreting the matrix and in understanding the pattern of interaction that the teachers use includes: percentage of tallies (total coded events) in each of the columns, which gives the proportion of the total interaction in the observed classroom situation found in each category (Table 5-1); percentage of total teacher talk that falls in each category -- found by dividing the total of each category, 1 through 7, and 12 through 17, by the sum of these sixteen categories (Table 5-6); the build-up of tallies in various cells of the matrix, giving an indication of the teaching pattern and emphasis on certain teacher behaviors; the absence, or very low frequency of events in certain cells revealing other aspects of the teachers' behavior. Arabic numbers within cells (event frequencies) give quantitative meaning to the description of the interaction.

Separate matrices for individual teachers, and the analyses (ratio indexes) of the respective matrices, have been included in Appendices 19 to 28.

Table 5-1 illustrates the IDER Matrix, and values obtained for the various ratios, areas compared, and

Figure 5

## Thirteen Selected Ratios of IDER Interaction Summary Matrix for the Ten Teachers

Ratio 1: Indirect/Direct, Encouraging (I/D, Encour.)
Categories (1+2+3+4)/Categories (5+6+7)

Ratio 2: Indirect/Direct, Restricting (1/D, Restr.)
Categories (12+13+14)/Categories (15+16+17)

Ratio 3: Indirect/Direct, Total Matrix (I/D, Tot)
Categories (1+2+3+4+12+13+14)/Categories (5+6+17+15+16+17)

Ratio 4: Teacher Talk/Pupil Talk, Total (TT/PT, Tot)
Categories (1+2+3+4+5+6+17+12+13+14+15+16+17)/Categories (8+9+18+19).

Ratio 5: Pupil Initiated Talk-Sustained, Encouraging (PIT-Sust, Encour) Event frequency cell (9-9)/Event frequency Cells (8-8)+(9-9)

Ratio 6: Pupil Initiated Talk-Sustained, Restricting (PIT-Sust, Restr) Event frequency cell (19-19)/Event frequency cells (18-18)+(19-19)

Ratio 7: Pupil Initiated Talk, Total (PIT, Tot)
Total tallies Columns 9, and 19/Total tallies Columns 8, 18, 9 and 1

Ratio 10: Teacher Response Ratio, Encouraging (TRR,Encour)
Categories (1+2+3)/Categories (1+2+3+6+7)

Ratio 11: Teacher Response Ratio, Restricting (TRR, Restr)
Categories (12+13)/Categories (12+13+16+17)

Ratio 12: Teacher Response Ratio, Total (TRR, Tot)
Categories (1+2+3+12+13)/Categories (1+2+3+6+7+12+13+16+17)

Ratio 18: Teacher Question Ratio (TQR)
Categories (4+14)/Categories (4+14+5+15)

Ratio 19: Instantaneous Teacher Question Ratio (TQR 89)
Cells (8-4)+(9-4)+(8-14)+(9-14)+(18-4)+(19-4)+(18-14)+(19-14)/Cells (8-4)+(8-5)+(9-4)+(9-5)+(18-4)+(18-5)+(9-14)+(9-15)+(18-4)+(19-4)+(18-5)+(19-5)+(18-4)+(18-15)+(19-14)+(19-15)

Ratio 20: Instantaneous Teacher Response Ratio (TRR 89)
Total tallies Rows 8, 9, 18, and 19 + Cols. 1, 2, 3, 12, and 13/Rows 8, 9, 18 and 19 +Cols. 1, 2, 3, 12, 13, 6, 7, 16 and 17.

tally totals of the various events. For those who wish to examine the matrix in detail, the following information may be helpful:

1. The 20 columns and rows correspond to the 20 categories of the Flanders-Galloway interaction analysis system.

2. Column 11 tallies indicate the frequency and changes in classroom activities -- e.g. from art to language, arithmetic to reading, etc.

3. Quadrant 1, defined as columns 1-10, rows 1-10, includes tallies of "encouraging" teacher behavior.

4. Quadrant 3, defined as columns 11 to 20 rows 11 to 20, includes tallies of "restricting" teacher behavior, and the frequency of changes in classroom activities.

5. Cells occur at the intersections of the rows and columns. The notations immediately below the number of tallies in each of the cells, viz., T., C., and R, represent the percentage the tally number in a particular cell is of the total tally in the particular column, and row sums of tallies, respectively.

6. The cells contain tally totals of coded events observed in the classroom, according to the category to which they apply.

7. Cells are of two types: (a) steady state cells (sustained, or extended teacher or pupil behavior). They are described as 1-1, 2-2, 3-3, .........20-20. They fall along the diagonal of Quadrants 1 and 3. (b) transitional cells indicate changes in teacher, or teacher elicited behavior -- e.g., 2-6: following teacher's praise, teacher gives directions, or issues an order -- events which fall within the encouraging range; 13-19: following perfunctory acceptance of a student's idea, or

statement, the teacher is inattentive, or ignores a student's attempt to initiate an idea, express an opinion, or ask a question -- events which are of a restricting nature.

8. Row 21 shows the sums of tallies for each of the categories, and the percentage the events within each category is of the total events coded (total observations as shown in cell 21-21).

9. Certain cells of the matrix may be grouped to form areas (e.g., 6-6, 6-7, and 7-6, 7-7) which are of interest for comparison purposes. Examination of various areas gives an indication of the pattern of teacher influence, or method of teacher motivation and control.

10. The reader is directed to Appendix 16 for explanation of the respective category column totals, cell tally frequencies, area tally totals, which entered into the computations of the several ratios not reported in Tables 19-28.

A check of the Matrix total in Table 5-1 shows 30,746 tallies were recorded. This represents 25.6 hours of actual coding time. Elapsed time that the observers were in the classrooms was in the order of 45 to 50 hours. An additional 50 to 60 hours were devoted to sessions with individual learners in the administration of inventories and in audio-tape recording responses to a pupil questionnaire. These data on high inference variables will be incorporated and discussed in a later chapter.

The column totals of the 20 categories displayed in the composite IDER Matrix (Table 5-1) includes the percentage of tallies. These are summarized for all ten teachers (matrices) in Table 5-2. Information on the amounts of Encouraging and Restricting Teacher Talk, Pupil Talk, Silence, or Confusion, has been abstracted and presented in Table 5-3.

A study of the data in Table 5-2 reveals a number of important characteristics. It can be seen how few teacher statements occurred in the first three categories (those associated with pupil feelings, praise, and use of students' ideas). At the same time it will be noted that over half of those statements which were classified in the feelings, praise, and ideas categories were restricting in their effect. This can be recognized by comparing tally percentages in Categories 1 to 3, with those in Categories 12, and 13 remembering that Category 1 has no counterpart among the categories of restricting influences. A similar trend can be seen when examining Categories 6 and 7 comparing them with those in Categories 16 and 17. One third of the total events in these categories were restricting. Approximately one third of the events in the pupil initiation categories (Category 9 and 19) are also of the restricting variety. Thus, a good deal of the teacher-pupil interaction falls within a pattern of restricting influence on pupils.

## TABLE 5-2

COMPARISON OF COLUMN TOTALS FOR ALL MATRICES 1 TO 10 ← CATEGORIES →

| Teachers ↓ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 19 | 45 | 45 | 255 | 706 | 349 | 106 | 512 | 131 | 706 | 18 | 34 | 43 | 24 | 15 | 86 | 5 | 16 | 99 | 24 | 3238 |
| % | 0.6 | 1.4 | 1.4 | 7.9 | 21.8 | 10.8 | 3.3 | 15.8 | 4.0 | 21.8 | 0.6 | 1.1 | 1.3 | 0.7 | 0.5 | 2.7 | 0.2 | 0.5 | 3.1 | 0.7 | 10.5 |
| 2 | 17 | 61 | 15 | 139 | 510 | 206 | 103 | 227 | 89 | 409 | 15 | 22 | 30 | 17 | 11 | 144 | 40 | 21 | 77 | 109 | 2262 |
| % | 0.8 | 2.7 | 0.7 | 6.1 | 22.5 | 9.1 | 4.6 | 10.0 | 3.9 | 18.1 | 0.7 | 1.0 | 1.3 | 0.8 | 0.5 | 6.4 | 1.8 | 0.9 | 3.4 | 4.8 | 7.4 |
| 3 | 2 | 14 | 7 | 109 | 212 | 113 | 26 | 226 | 62 | 548 | 27 | 16 | 34 | 13 | 75 | 128 | 64 | 25 | 207 | 258 | 2166 |
| % | 0.1 | 0.6 | 0.3 | 5.0 | 9.8 | 5.2 | 1.2 | 10.4 | 2.9 | 25.3 | 1.2 | 0.7 | 1.6 | 0.6 | 3.5 | 5.9 | 3.0 | 1.2 | 9.6 | 11.9 | 7.0 |
| 4 | 6 | 29 | 22 | 344 | 417 | 189 | 110 | 365 | 150 | 658 | 25 | 35 | 37 | 103 | 90 | 135 | 74 | 93 | 183 | 344 | 3409 |
| % | 0.2 | 0.9 | 0.6 | 10.1 | 12.2 | 5.5 | 3.2 | 10.7 | 4.4 | 19.3 | 0.7 | 1.0 | 1.1 | 3.0 | 2.6 | 4.0 | 2.2 | 2.7 | 5.4 | 10.1 | 11.1 |
| 5 | 10 | 99 | 72 | 338 | 584 | 305 | 120 | 346 | 186 | 735 | 13 | 61 | 72 | 28 | 16 | 141 | 38 | 23 | 93 | 52 | 3332 |
| % | 0.3 | 3.0 | 2.2 | 10.1 | 17.5 | 9.2 | 3.6 | 10.4 | 5.6 | 22.1 | 0.4 | 1.8 | 2.2 | 0.8 | 0.5 | 4.2 | 1.1 | 0.7 | 2.8 | 1.6 | 10.8 |
| 6 | 13 | 25 | 43 | 335 | 1140 | 282 | 200 | 466 | 106 | 619 | 30 | 67 | 54 | 57 | 22 | 114 | 84 | 34 | 46 | 19 | 3756 |
| % | 0.3 | 0.7 | 1.1 | 8.9 | 30.4 | 7.5 | 5.3 | 12.4 | 2.8 | 16.5 | 0.8 | 1.8 | 1.4 | 1.5 | 0.6 | 3.0 | 2.2 | 0.9 | 1.2 | 0.5 | 12.2 |
| 7 | 2 | 42 | 20 | 270 | 328 | 293 | 229 | 789 | 64 | 659 | 31 | 60 | 89 | 74 | 12 | 141 | 79 | 53 | 34 | 35 | 3304 |
| % | 0.1 | 1.3 | 0.6 | 8.2 | 9.9 | 8.9 | 6.9 | 23.9 | 1.9 | 19.9 | 0.9 | 1.8 | 2.7 | 2.2 | 0.4 | 4.3 | 2.4 | 1.6 | 1.0 | 1.1 | 10.7 |
| 8 | 12 | 116 | 42 | 328 | 247 | 265 | 71 | 402 | 169 | 1135 | 18 | 33 | 37 | 27 | 4 | 33 | 5 | 28 | 118 | 8 | 3098 |
| % | 0.4 | 3.7 | 1.4 | 10.6 | 8.0 | 8.6 | 2.3 | 13.0 | 5.5 | 36.6 | 0.6 | 1.1 | 1.2 | 0.9 | 0.1 | 1.1 | 0.2 | 0.9 | 3.8 | 0.3 | 10.1 |
| 9 | 2 | 14 | 15 | 241 | 618 | 280 | 49 | 592 | 106 | 655 | 21 | 36 | 34 | 98 | 44 | 97 | 27 | 166 | 56 | 51 | 3202 |
| % | 0.1 | 0.4 | 0.5 | 7.5 | 19.3 | 8.7 | 1.5 | 18.5 | 3.3 | 20.5 | 0.7 | 1.1 | 1.1 | 3.1 | 1.4 | 3.0 | 0.8 | 5.2 | 1.7 | 1.6 | 10.4 |
| 10 | 13 | 26 | 16 | 234 | 424 | 158 | 68 | 508 | 195 | 489 | 27 | 49 | 63 | 56 | 73 | 155 | 64 | 43 | 87 | 231 | 2979 |
| % | 0.4 | 0.9 | 0.5 | 7.9 | 14.2 | 5.3 | 2.3 | 17.1 | 6.5 | 16.4 | 0.9 | 1.6 | 2.1 | 1.9 | 2.5 | 5.2 | 2.1 | 1.4 | 2.9 | 7.8 | 9.7 |
| TOTAL | 96 | 471 | 297 | 2593 | 5186 | 2440 | 1082 | 4433 | 1258 | 6613 | 225 | 413 | 493 | 497 | 362 | 1174 | 480 | 502 | 1000 | 1131 | 30746 |
| % | 0.3 | 1.5 | 1.0 | 8.4 | 16.9 | 7.9 | 3.5 | 14.4 | 4.1 | 21.5 | 0.7 | 1.3 | 1.6 | 1.6 | 1.2 | 3.8 | 1.6 | 1.6 | 3.3 | 3.7 | 100.0 |

|← Encouraging 79.0% →| |← Restricting 19.7% →|

○ Highest

□ Lowest

Also, it is of interest to review the results of individual matrices in the categories referred to above. There are wide variations among teachers within the sample. For example, in Category 5 teacher lecturing ranges from a low of 8% to a high of 30.4%. Equally wide variations can be seen in Categories 2, 3, 7, 8, 10, 14, 15, 16, 17, 18, 19, and 20. The extremes noted in the ranges for the different categories cannot help but reflect distinguishably different patterns of teacher behaviors and social-emotional classroom climates. Three contrasting classroom climates will be selected for detailed discussion in a later chapter.

Further insight into the flow of communication and pattern of classroom interaction can be gained by examining the data presented in Table 5-3. This table highlights the amounts of Encouraging and Restricting Teacher Talk, Pupil Talk, Silence or Confusion, and those effects classified as either Indirect, or Direct, Responding or Initiating, Organized and Comfortable, or Disorganized and Uncomfortable.

Total teacher talk accounts for 50.6% of the interaction, total pupil talk for 23.4%, and silence or confusion for 25.2%. These gross categories can be examined further to show what proportions represent Indirect and Direct influence, those proportions of pupil talk which are either Responding or Initiating,

## TABLE 5-3

## TEACHER TALK, PUPIL TALK, SILENCE OR CONFUSION ENCOURAGING AND RESTRICTING, AS A PERCENTAGE OF THE TOTAL MATRIX

| CATEGORY | EFFECT | TOTAL % | ENCOURAGING | RESTRICTING |
|---|---|---|---|---|
| Teacher Talk (1-7, 12-17) | Indirect (1-4,12-14) | 15.7 | 11.2 | 4.5 |
| | Direct (5-7, 15-17) | 34.9 | 28.3 * | 6.6 ** |
| Pupil Talk (8-9, 18-19) | Responding (8, 18) | 16.0 | 14.4 | 1.6 |
| | Initiating (9, 19) | 7.4 | 4.1 | 3.3 |
| Silence (10) Confusion (20) | Silence | 25.2 | 21.5 | |
| | Confusion | | | 3.7 |
| Total Percentage | | 99.2 | 79.5 | 19.7 |

* 4.1% falls within Categories 6 and 7<br>
** 1.8% falls within Categories 16 and 17<br>
5.9% involved in classroom control

NOTE: In Teacher Talk Category, and in Indirect Effect, Column 1 is _not_ repeated, as it has no counterpart (e.g. as Column 11).

and the degree of silence or confusion which is either Encouraging or Restricting. By referring back to Table 5-2 it is possible to isolate the percentage of events which fall in Categories 6, 16, 7 and 17. These account for 16.8% of the total matrix interaction events. Added to this amount, 3.7% of the classroom interaction fell within Category 20 -- confusion. In all, therefore, 20.5% of the instructional time was taken up by the teachers either giving orders, or using criticism, and of learners resisting the teachers' influence and attempts to control the class. The teachers' efforts to get the pupils to go along with the classroom management and instruction appear to have resulted in a climate which has a trend of defensiveness within it.

The additional point of interest lies in the breakdown of teacher-pupil interaction into two areas of influence -- encouraging and restricting. Of the total encoded interaction in the ten opportunity classrooms, practically one-fifth of it was classified as restricting.

Columns 1 to 7, and 12 to 17 represent categories of teacher talk, the former of an encouraging nature, the latter of a restricting nature. Percentages for encouraging teacher talk and restricting teacher talk (both Indirect and Direct) indicate 39.5% and 11.1%, respectively, that is, more than one fifth of teachers' talk was classified as being restricting.

Columns 8 and 9, and 18 and 19 provide percentages of pupil talk which is encouraged, or is restricted. Pupil encouraged talk amounted to 18.5%, and pupil restricted talk was 4.9%. Of the total amount of pupil talk, about one fifth was restricting. It is noteworthy that less than one third of the total pupil talk is pupil initiated talk. Of the 7.4% pupil initiated talk, almost one-half is in the restricting category.

### Description of the IDER Ratio Indexes (Figure 5)

Analysis of the IDER Matrix permits examination of a large number of ratios and relationships among categories, cell frequencies, matrix areas, and column and row totals. In the initial stage of exploring possibly revealing patterns of teacher behavior and influence, thirty-four computations were devised with the view of making a detailed interpretation of the interaction matrix (Appendix 16). Thirteen have been selected for discussion of the IDER Matrix results (Figure 5).

While a number of the computations may be of interest to the reader who wishes to pursue the matrix interpretation beyond the specific research questions raised in Chapter 3, in the interest of presenting a manageable amount of data and results, the writer has chosen those ratios deemed to give an adequate insight into the nature of matrix patterns and teacher influence. For a complete summary of the results for all ratios, etc., calculated, the reader is referred to Appendix 17.

The ratios considered relevant for our purposes are defined in detail below and discussed.

The IDER Summary Matrix classifies all teacher statements and nonverbal behaviors as either indirect or direct, encouraging or restricting. These classifications give central attention to the amount of freedom the teacher grants to the student. He can be indirect, maximizing the freedom of the pupil to respond; or he can be direct, minimizing the freedom of the pupil to respond. He can be encouraging, which communicates an attitude of attention and interest in the pupil's efforts to respond, creating a supportive climate, or positive affectivity. He can be restricting, which communicates an attitude of indifference and rejection of pupil efforts to respond, tending to create a defensive climate, or negative affectivity.

Indirect influence consists of soliciting the opinions or ideas of the pupils, applying or enlarging on those opinions or ideas, praising or encouraging the participation of pupils, or clarifying and accepting their feelings.

Direct influence consists of stating the teacher's own opinions or ideas, directing the pupils' action, criticizing his behavior, or justifying the teacher's authority or use of that authority.

Ratio 1 I/D Encour.: (Indirect/Direct-Encouraging). The total number of tallies in Columns 1, 2, 3, and 4 is divided by the total number of tallies in Columns 5, 6, and 7 to find the I/D Ratio, or the ratio of indirect to direct teacher statements of an encouraging nature.

Ratio 2 I/D Restr.: (Indirect/Direct-Restricting). The total number of tallies in Columns 12, 13, and 14 is divided by the total number of tallies in Columns 15, 16, and 17.

Ratio 3 I/D Tot.: (Indirect/Direct-Total). The total number of tallies in Columns 1, 2, 3, 4, 12, 13, and 14 is divided by the total number of tallies in Columns 5, 6, 7, 15, 16 and 17 to find the I/D Ratio for all indirect to direct events encoded in the respective categories of the IDER Matrix.

Table 5-4 displays the various indexes of indirect/direct influence for the ten teachers. The mean value of 0.478 for I/D Total (which includes both encouraging and restricting events) indicates that for every indirect statement encoded, two direct statements were encoded.

## TABLE 5-4

## ID RATIOS, -- ENCOURAGING, RESTRICTING, AND TOTAL, MEANS, AND RANGES FOR THE TEN TEACHERS

| Teacher | I/D Encouraging | I/D Restricting | I/D Total |
|---|---|---|---|
| 1 | 0.314 | 0.953 | 0.367 |
| 2 | 0.283 | 0.354 | 0.297 |
| 3 | 0.376 | 0.236 | 0.316 |
| 4 | 0.560 | 0.585 | 0.567 |
| 5 | 0.514 | 0.826 | 0.565 |
| 6 | 0.256 | 0.809 | 0.322 |
| 7 | 0.393 | 0.961 | 0.515 |
| 8 | 0.854 | 2.310 | 0.952 |
| 9 | 0.287 | 1.000 | 0.395 |
| 10 | 0.445 | 0.575 | 0.485 |
| Mean | 0.428 | 0.871 | 0.478 |
| Range | 0.256-0.854 | 0.236-2.310 | 0.297-0.952 |

In other words, the teachers' behavior was twice as direct as it was indirect.

In the area of encouraging events it can be seen that teacher behavior ranged from one quarter of her influence being indirect-encouraging to four-fifths of it being so, with the mean value of 0.428 approximating that of the I/D Total; whereas in the area of restricting teacher behavior, ratio values range from something less than one-quarter (0.236) to a high of two and one-third (2.310), with a mean value of 0.871. This means that in the former instance, for every indirect-restricting event there were four direct-restricting, and in the latter for every direct-restricting event there were nearly two and one-third indirect-restricting events.

Based on the mean value of 0.871 for the I/D Restricting, teachers were, in the main, direct about as often as they were indirect. It should be pointed out that events encoded in the categories of restricting behavior (Categories 12 to 17), whether of an indirect or direct nature, contain within them messages of contradictory, incongruous, perfunctory, disapproving, and unreceptive teacher behaviors. The reader should be aware that behaviors classified as indirect/restricting are not necessarily more desirable than those classified as direct/restricting. Both types of behavior tend to produce a less supportive classroom climate and increased negative affectivity.

Judging from the I/D Ratio - Total shown in Table 5-4, namely, 0.478, freedom of the pupils to respond is considerably limited.

Ratio 4 TT/PT Total: (Teacher Talk/Pupil Talk-Total). In any classroom one of three communication states exists: either the teacher is talking, or a pupil is talking, or silence or confusion exists. To find what proportion of the total amount of classroom talk is engaged in by the teacher, the total number of tallies in Columns 1 through 7, and 12 through 17 is divided by the total number of tallies in Columns 8, 9, 18, and 19. Indexes are shown in Table 5-5.

Viewing the range in the ratios of TT/PT in Table 5-5 it can be seen that the amount of talk for some teachers in relation to their pupils, is more than double that for others. From Table 5-5 we learn that on the average teachers talked two and three-quarter times as much as their pupils. Monopolizing talking time is one way to dominate and to express one's will or authority.

Ratio 4 becomes more meaningful when the percentage of total teacher talk that falls in each category is determined. This has been done by dividing the total

## TABLE 5-5

## TEACHER TALK/PUPIL TALK RATIOS, MEAN, AND RANGE FOR THE TEN TEACHERS

| Teacher | Ratio Index |
|---|---|
| 1 | 2.285 |
| 2 | 3.176 |
| 3 | 1.563 |
| 4 | 2.011 |
| 5 | 2.907 |
| 6 | 3.736 |
| 7 | 1.744 |
| 8 | 1.702 |
| 9 | 1.690 |
| 10 | 1.679 |
| Mean | 2.727 |
| Range | 1.563-3.736 |

of each category, 1 through 7, by the sum of the seven categories. To determine the amount of restricting teacher talk, the total of each category, 12 through 17, is divided by the sum of these six categories. Similarly, the percentage of total pupil talk that falls in each of the categories of pupil talk (8 and 9; 18 and 19) is determined by dividing the total of each category by the sum of categories 8 and 9, and of 18 and 19. The situational setting for the Total Sample Matrix is exhibited by the data in Tables 5-6 and 5-7.

The nature of the talk represented in Table 5-6 is important in understanding the teachers' behavior and the emphasis on motivation and control. In addition it is possible to recognize whether a creative inquiry pattern exists, as opposed to the tendency to lecture or engage in a drill pattern of short teacher-pupil question-answer technique. Table 5-6 indicates the pattern of events for the IDER Matrix, permitting insight into the situational setting, and the nature of the teachers' influence.

Viewing the data presented in Table 5-6 and Table 5-7, it is possible to recognize how the teachers used their influence. A study of Table 5-7 shows that teacher talk accounts for 50.6% of the interaction, as compared with a normative expectation of 68% (Flanders, 1970, p. 101). Pupils talked 23.4% of the elapsed

## TABLE 5-6

### PERCENTAGE OF TOTAL TEACHER TALK AND PUPIL TALK THAT FALLS IN THE VARIOUS CATEGORIES

| ENCOURAGING | | RESTRICTING | |
|---|---|---|---|
| Category Number | % Of Total Teacher Talk | Category Number | % of Total Teacher Talk |
| 1 | 0.8 | | |
| 2 | 3.8 | 12 | 12.1 |
| 3 | 2.4 | 13 | 14.4 |
| 4 | 21.3 | 14 | 14.4 |
| 5 | 42.6 | 15 | 10.6 |
| 6 | 20.1 | 16 | 34.3 |
| 7 | 8.9 | 17 | 14.1 |
| Category Number | % Of Total Pupil Talk | Category Number | % of Total Pupil Talk |
| 8 | 77.8 | 18 | 33.4 |
| 9 | 22.1 | 19 | 66.6 |

## TABLE 5-7

### TEACHER TALK, PUPIL TALK, SILENCE, OR CONFUSION AS A PERCENTAGE OF THE IDER MATRIX

| | Percentage | Normative Expectations |
|---|---|---|
| Teacher Talk (Cols 1-7, 12-17 | 50.6 | 68 |
| Pupil Talk (Cols 8, 9, and 18, 19) | 23.4 | 20 |
| Silence (Col 10) | 21.5 | 12 |
| Confusion (Col 20) | 3.7 | |

coding time -- slightly more than the 20% suggested by Flanders (1970). The surprising difference in the amount of silence or confusion, 21.5% and 3.7%, respectively, from the expected amount of 12%, is significant. In effect, pupils in the ten opportunity classes spent more than twice the normal amount of time expected doing seat work, completing assignments, waiting for the teacher, or working on individual tasks. Nearly 4% of this time was encoded as disorganization, uncomfortable, and characterized by distress.

This latter fact probably accounts for the high incidence of teacher talk encoded in Category 16 (Table 5-6). Slightly over one-third of restricting teacher influence was devoted to giving directions which dismissed or attempted to control, student behavior. Another 14.1% of teacher behavior in the restricting categories was encoded as harsh, critical, defensive, or hostile. Combining these events (Category 17) with those in Category 16, we find that 48.4% of teacher behavior which was restricting, was directed to dealing with disruptive, or inappropriate student behavior, as perceived by the teacher. The last five words of the preceding statement are underlined as being important in view of the influence that perceptions have on individuals' behavior.

Ten percent of the teachers' talk, restricting, was employed in unresponsive lecturing. In other words teachers showed an inability, or unwillingness to alter their pace or direction of lecturing, disregarding pupil cues; e.g., inattentiveness or restlessness. As part of the restricting teacher behavior pattern, the unresponsiveness to cues in the classroom present in Category 15, and the high incidence of events in Categories 16 and 17, points to the tendency of pupils to reject the teachers' attempts at control and motivation.

The teacher talk, encouraging, column of Table 5-6 indicates that teachers lectured over 40% of their total talking time. They asked questions or gave directions about an equal amount in the order of 20% for each type of behavior. There is an extremely low frequency of events in Category 3 -- the category which indicates how much the teacher actually uses student ideas, or implements their opinions into the classroom discourse. Consequently there is a remarkably low incidence of teacher responsiveness. The complementary behavior of pupils to teacher response (as opposed to teacher initiation) is to initiate their own ideas and make their own suggestions.

Gauging from the low frequency of events encoded in Categories 1, and 2, one would expect subsequent meaningful interpersonal relationships between teachers and pupils to be at a minimum. This suggestion is reinforced when it is noted to what extent praise is incongruent, as revealed by Category 12 statements (12.1%), and accepting student responses is perfunctory, as revealed by Category 13 statements (14.4%). It is not surprising, therefore, to find a typical pattern of teacher questions-pupil answers, associated with a drill pattern of instruction. This would imply a narrow range of cognitive experiences for pupils where such a pattern of teacher influence prevails.

Ratio 5 PIT-Sust-Encour.: (Pupil Initiated Talk-Sustained-Encouraging). The Pupil Initiated Talk Ratio indicates what proportion of pupil talk was judged by the observer to be a sustained act of initiation. The PIT is calculated by dividing the frequency of talk in Cell 9-9 by the sum of all pupil talk in Cells 8-8 and 9-9.

Ratio 6 PIT-Sust-Restr.: (Pupil Initiated Talk-Sustained-Restricting). The Pupil Initiated Talk Ratio-Restricting is proposed to indicate what proportion of pupil talk judged by the observer to be an attempt at sustained initiation, was restricted by the teacher's behavior. The ratio is calculated by finding the frequency of events in cell 19-19, and dividing by the sum of all pupil talk in Cells 18-18 and 19-19.

Ratio 7 PIT-Total: (Pupil Initiated Talk-Total). The Pupil Initiated Talk Ratio-Total is calculated by dividing the total tallies for Columns 9 and 19 by the total tallies for Columns 8, 9, 18 and 19. The three ratio indexes may be converted to percents by multiplying them by 100. PIT Ratios are shown in Table 5-8.

The mean ratio of 0.171 for PIT-Sust.-Encour. indicates that for every six responses made by the pupils, one was in the initiating response category (9), or only 17% of pupil talk within the encouraging range originated with the pupils. The remainder of pupil talk was confined to replying to teacher questioning which solicits direct answers from pupils.

The mean ratio of 0.171 conceals rather dramatic differences among teachers. When the range of PIT-Sust.-Encour. ratio is considered, it is found that pupils in certain classes initiated only one response in a hundred (0.012), as contrasted with other classes where pupils initiated one response in three, four, or five (0.250-0.366).

PIT-Sust.-Restr. ratios involve Categories 18 and 19. In both these categories, the teachers behave in a way which ignores, or is indifferent to, pupil responses or to their attempts to initiate the interaction. This pattern can be noted when the PIT-Sust.-

## TABLE 5-8

## PUPIL INITIATED TALK RATIOS, -- ENCOURAGING, RESTRICTING, AND TOTAL, MEANS, AND RANGES FOR THE TEN TEACHERS

| Teachers | PIT-Sust. Encour. | PIT-Sust. Restr. | PIT-Total |
|---|---|---|---|
| 1 | 0.031 | 0.563 | 0.303 |
| 2 | 0.250 | 0.778 | 0.401 |
| 3 | 0.012 | 0.850 | 0.517 |
| 4 | 0.221 | 0.673 | 0.421 |
| 5 | 0.366 | 1.000 | 0.431 |
| 6 | 0.130 | 1,000 | 0.233 |
| 7 | 0.014 | 0.000 | 0.104 |
| 8 | 0.290 | 0.676 | 0.400 |
| 9 | 0.091 | 0.064 | 0.176 |
| 10 | 0.307 | 0.455 | 0.339 |
| Mean | 0.171 | 0.606 | 0.333 |
| Range | 0.012-0.366 | 0.000-1.000 | 0.104-0.517 |

Restr. ratios are examined. The mean ratio of 0.606 indicates that for every five pupil responses (all of which are classified as restricted) three are in the initiation category (Category 19). The net effect of this situation was to ignore or to dismiss over half of the students' persistent efforts to express an opinion, ask a question, or seek the teachers' attention.

The range of PIT-Sust.-Restr. ratios points up two extremes in the pattern of pupil initiated talk. On the one hand (Teacher 7) there were no events of pupil initiation recorded (cf. cell 19-19), and on the other (Teacher 5) no events of pupil responses (c.f. cell 18-18) occurred, creating a situation in which in the former case not a single attempt was made by pupils to initiate talk, and in the latter, every single attempt to initiate talk was restricted. On the other hand, not once did Teacher 5 ignore childrens responses, or exhibit inattention or disinterest in their attempts to respond.

If these results (for Teacher 7 and Teacher 5, respectively) are compared with their PIT-Sust.-Encour. ratios it will be noted that pupils of Teacher 7 did not initiate any appreciable talk within the encouraging area. Freedom of pupil initiation in this class was remarkably reduced, as shown by the PIT-Total ratio of 0.104. This is to say that 10% of the total pupil talk was of the initiation variety. Teacher 5, who showed interest in her pupils' responses, and gave attention to their answers (which is apparent from the absence of any events encoded in cell 18-18), yet was 100% restricting in respect to the PIT-Sust.-Restr., had the highest PIT-Sust.-Encour. ratio (0.366) for the whole sample. Over one-third of her pupil talk, encouraging, was of the initiated type. Figures for PIT-Total ratios reveal a ratio of 0.431 for this class, the second highest in the entire sample.

A further look at the PIT-Total ratios in Table 5-8 demonstrates a wide variability in pupil initiation. On the whole (mean ratio of 0.383) pupils initiated one out of every three responses encoded, but within a dramatic range of variability extending from one initiated response in one hundred (0.104) to one initiated response out of two (0.517). Perhaps all that can be said for these widely differing results is that in some classes the pupils' spontaneous talk considerably exceeded that of other classes, or that some classes were more talkative than others. It is worthwhile noting that pupil talk, initiation (Category 9 and 19), may include a high incidence of pupil questions which are related to their insecurity in working on a task, or their failure to understand the teachers' directions. Many

Category 9 and 19 events may well be related to the pupils' efforts to clarify for themselves the teachers' intentions.

The results of the PIT ratios show rather clearly that the major contact within the classroom interaction was initiated by the teachers.

Ratio 10 TRR-Encour.: (Teacher Response Ratio-Encouraging). The TRR-Encour. is defined as an index which corresponds to the teacher's tendency to react to the ideas and feelings of the pupils in an encouraging manner. The TRR-Encour. is found by adding category frequencies 1+2+3, and dividing by the sum of Categories 1+2+3+6+7.

Ratio 11 TRR-Restr.: (Teacher Response Ratio-Restricting). The TRR-Restr. is defined as an index which corresponds to the teacher's tendency to react to the ideas and feelings of the pupils which has a restricting effect. The ratio represents the proportion of teacher behavior which falls in Categories 12 and 13 -- those categories which have a greater tendency to contribute to indirect patterns and influence on classroom climate. The TRR-Restr. ratio is found by adding category frequencies 12+13, and dividing by the sum of Categories 12+13+16+17.

Ratio 12 TRR-Total: (Teacher Response Ratio-Total). The TRR-Total is defined as an index which corresponds to the teacher's tendency to react to the ideas and feelings of the pupils, inclusive of both encouraging and restricting teacher behaviors. The TRR ratio was formerly known as i/d (little I/D, or Revised I/D), and has been traditionally concerned with the nature of teacher influence which eliminated the effects of teacher questions and teacher lecturing -- those categories concerned most with presentation of subject matter. The TRR-Total is found by adding category frequencies 1+2+3+12+13, and dividing by the sum of Categories 1+2+3+12+13+6+7+16+17. By multiplying the ratio indexes by 100, it is possible to discuss them as percent figures -- which is an easier way to discuss the data. The higher the percentage of the TRR, the greater is the amount of teacher responsiveness which is indirect.

The TRR ratios are shown in Table 5-9. Reference to the ratio mean of TRR-Encour. (0.190) shows that 19% of all statements encoded in both the indirect and direct categories (1, 2, and 3, 6, and 7, respectively) were indirect. Slightly over four-fifths of the teachers' responses were direct in the area of encouragement. The range of 0.086-0.336 shows teachers' responsiveness varied from a low of 8% to a high of nearly 34%.

## TABLE 5-9

## TEACHER RESPONSE RATIOS, -- ENCOURAGING, RESTRICTING, AND TOTAL, MEANS, AND RANGES FOR THE TEN TEACHERS

| Teacher | TRR-Encour. | TRR-Restr. | TRR-Total |
|---|---|---|---|
| 1 | 0.193 | 0.458 | 0.254 |
| 2 | 0.231 | 0.220 | 0.227 |
| 3 | 0.142 | 0.207 | 0.181 |
| 4 | 0.160 | 0.256 | 0.203 |
| 5 | 0.299 | 0.426 | 0.342 |
| 6 | 0.144 | 0.379 | 0.229 |
| 7 | 0.109 | 0.404 | 0.223 |
| 8 | 0.336 | 0.648 | 0.391 |
| 9 | 0.086 | 0.361 | 0.182 |
| 10 | 0.196 | 0.338 | 0.273 |
| Mean | 0.190 | 0.370 | 0.250 |
| Range | 0.086-0.336 | 0.207-0.648 | 0.181-0.391 |

It is interesting to note that in spite of those events of teacher behavior which have been recorded as restricting, teachers were more indirect in their responses to pupils in the restricting categories than they were indirect in the encouraging ones. Why this is so is not clear. The mean TRR-Restr. ratio of 0.370 demonstrates that the teachers were indirectly restricting 37% of the time, with a range which varied from 21% to 65%.

The TRR-Total mean ratio of 0.250 is lower than the average of all averages suggested by Flanders (1970, p. 102). He reports a value of 42% for this ratio. Based on this finding, the teachers in the sample were significantly more direct in their responses to pupils, using more Category 6, and 7 statements than the average.

Relating the results of the TRR ratios to those of the PIT ratios, it appears teachers have been consistent in their restricting influence on pupils, by discouraging pupil initiation, and by being more controlling (direct) than facilitating (indirect) in their responses to pupils.

The implications may become clearer when pupil perceptions of the classroom climate are considered at a later point. Thus far the data suggest that the major influence in classroom interaction has been to limit students' freedom to respond, for teachers to be distinctly directive and unresponsive to their students.

A study of the following three ratios, viz., Teacher Question Ratio, Instantaneous Teacher Question Ratio, and Instantaneous Teacher Response Ratio, will give further understanding of teacher behavior and influence in the special class.

Ratio 18 TQR:(Teacher Question Ratio). The TQR is defined as an index representing the tendency of the class teacher to use questions when guiding the more content oriented part of class discussion. The TQR is the proportion of all Category 4, 5, 14 and 15 statements which are classified in Categories 4, and 14. It is calculated by dividing the number of tallies in Categories 4 and 14 by the sum of tallies in Categories 4, 14, 5, and 15.

One would expect the average TQR for a number of teachers, each observed on several occasions, to be close to 26% (Flanders, 1970, p. 102). The TQR will vary as the teacher solicits pupil reactions to ideas which the teacher considers important or as he checks on their understanding by asking questions.

TQR's mean and range are shown in Table 5-10. The TQR mean of 0.370 (37%) is well above the normative expectation of 26%, with only one class (Teacher 2)

## TABLE 5-10

## TEACHER QUESTION RATIOS, MEAN, AND RANGE FOR THE TEN TEACHERS

| Teacher | TQR |
|---|---|
| 1 | 0.279 |
| 2 | 0.230 |
| 3 | 0.298 |
| 4 | 0.469 |
| 5 | 0.379 |
| 6 | 0.252 |
| 7 | 0.503 |
| 8 | 0.586 |
| 9 | 0.339 |
| 10 | 0.368 |
| Mean | 0.370 |
| Range | 0.230-0.586 |

appearing slightly below. Teachers of this study used questions at least as much as those found by Flanders' research, with two (Teachers 7 and 8) using approximately double the average amount.

Use of Categories 4 and 14 (Teacher questioning) is related to indirect teacher influence. The data in Table 5-10 highlight the fact that in spite of results which almost without exception are above the normative expectations, the balance of teacher talk-questioning and teacher talk-lecturing categories is heavily involved with lecturing behavior, which is related to direct teacher influence. Further evidence of this pattern has been referred to earlier in Table 5-6, where it was found questioning involved 21.3% of total teacher talk, and lecturing involved over 40%. Comparison of column totals with the total tallies of the IDER Matrix (Table 5-1) shows teachers used questioning 10% of the entire interaction time, and lecturing 18.5% of this time.

One final point should be made. Data in Table 5-7 demonstrated that teachers talked only 50.6% of the elapsed coding time. Therefore the results obtained for the TQR should be viewed in relation to this figure, which is approximately eighteen percentage points below the normative expectation for teacher talk. Simply stated, it may well be that teachers did not make as much use of a questioning technique as the TQR-Total mean of 0.370 might suggest.

Ratio 19 TQR 89: (Instantaneous Teacher Question Ratio). The TQR 89 is defined as the tendency of the teacher to respond to pupil talk based on his own (the teacher's) ideas, compared to his tendency to lecture. Immediate teacher reaction to the termination of pupil talk is identified by isolating rows 8, 9, 18, and 19, and examining the cell frequencies instead of the column totals for these categories.

The TQR 89 is calculated by adding the frequencies in cells (8-4)+(9-4)+(8-14)+(9-14)+(18-4)+(19-4)+(18-4) +(19-14), and dividing by the total tallies in the sixteen cells (8-4)+(8-5)+(9-4)+(9-5)+(8-14)+(8-15)+ (9-14)+(9-15)+(18-4)+(19-4)+(18-5)+(19-5)+(18-14)+(18-15) +(19-14)+(19-15). In discussing the data, the ratios will be expressed as percents. The normative expectation for TQR 89 is about 44% (Flanders, 1970, p. 105). Ratios, mean, and range are shown in Table 5-11.

The mean value of 0.363 (36%) in Table 5-11 is somewhat below expectation. It can be noted, however, that there is a fair degree of uneveness among the teachers, varying from a radically low to an above average result of 54%. Teachers 4, 5, 7 and 8 contributed to the above average ratios, whereas Teachers 2 and 3 obtained

## TABLE 5-11

## INSTANTANEOUS TEACHER QUESTION RATIOS, MEAN, AND RANGE, FOR THE TEN TEACHERS

| Teacher | TQR 89 |
|---|---|
| 1 | 0.300 |
| 2 | 0.137 |
| 3 | 0.091 |
| 4 | 0.536 |
| 5 | 0.512 |
| 6 | 0.391 |
| 7 | 0.543 |
| 8 | 0.509 |
| 9 | 0.343 |
| 10 | 0.271 |
| Mean | 0.363 |
| Range | 0.091-0.543 |

extremely low TQR 89 results of 13.7% and 9% respectively, thus appreciably affecting the sample mean TQR 89 of 36%. Teachers 2 and 3 lectured almost exclusively following the pupils' talk, when compared with those four teachers who on more than half of the occasions following pupils' talk tended towards a questioning interaction pattern.

In general terms, the special class teachers' immediate reaction to pupils' talk was to lecture as opposed to question. Once again, teacher behavior is associated with direct influence.

Ratio 20 TRR 89: (Instantaneous Teacher Response Ratio). The TRR 89 is defined as the tendency of the teacher to praise or to integrate pupil ideas and feelings into the class discussion, at the moment the pupils stop talking. The TRR 89 is calculated by adding the cell frequencies in Rows 8, 9, 18 and 19, Columns 1, 2, 3, 12 and 13, and dividing by the total tallies in the cells of Rows 8, 9, 18 and 19, Columns 1, 2, 3, 12, 13, 6, 7, 16 and 17. A normative expectation for the TRR 89 is about 60% (0.600) (Flanders, 1970, p. 105).

The data for TRR 89 are shown in Table 5-12. The TRR 89 ratio index is lowered proportionately by an increase in the number of tallies in the 6, 7, 16 and 17 categories. The mean TRR 89 of 44% (0.442) as

## TABLE 5-12

## INSTANTANEOUS TEACHER RESPONSE RATIOS, MEANS, AND RANGE FOR THE TEN TEACHERS

| Teacher | TRR 89 |
|---|---|
| 1 | 0.449 |
| 2 | 0.484 |
| 3 | 0.400 |
| 4 | 0.312 |
| 5 | 0.574 |
| 6 | 0.467 |
| 7 | 0.368 |
| 8 | 0.524 |
| 9 | 0.351 |
| 10 | 0.494 |
| Mean | 0.442 |
| Range | 0.312-0.574 |

shown in Table 5-12 is decidedly lower than the normative expectation of 60%. The trend was for teachers to be less initiating in their responses to pupils immediately following pupil talk, thus inhibiting pupils' initiation. The TRR 89 results correspond to the pattern revealed when Ratio 12 (TRR) was examined in Table 5-9, wherein the balance of teacher response and initiation was found to be heavily in favour of response behavior rather than in initiation behavior. Response behavior is seen as having a restricting influence in teacher-pupil interaction.

The data in Table 5-12 indicate that when pupils stopped speaking, teachers immediately integrated the pupils' ideas and feelings into the class discussion by using category 1, 2, 3, 12 or 13 statements about 44% of the elapsed coding time. The balance, or 56% of the time, was used by issuing directions, giving an order, or criticizing the pupils' responses.

Only Teachers 5 and 8 approached normative expectation. Teacher 4 obtained a TRR 89 of 31%, the lowest in the sample. If the level of classroom confusion, as judged by noise, out of seat and off assigned tasks behavior, is an indication of pupils' rejection of the teacher's influence, which in turn is related to the level of the teacher's use of praise, encouragement, and students' ideas, then Teacher 4's TRR 89 of 31% is understandable. During the data collection phase of the study, it was noted how disorderly and uncomfortable the climate was in this class, with the teacher having to struggle to maintain control.

Teachers 7 and 9 also have lower TRR 89 indexes, but their classes could not be viewed as resembling that of Teacher 4. They were controlled and businesslike. A strong element of strict discipline was evident, as frequent reference was made to class rules and "proper behavior." The regime could be characterized as "pupils spoke only when they were spoken to," which is consistent with the obtained TRR and TRR 89 results. The lower values for these ratios suggest a teacher who is "in charge." Hence, the pattern of classroom interaction falls mainly in the restrictive realm, or is of a much more direct influence nature.

## Summary

Coded events of teacher behavior totalling 32,746 were recorded for ten teachers in classes for E.M.R. children between the ages of 6 and 12. These events were classified according to the combined category system of Flanders and Galloway, and have been displayed in a 20 x 20 IDER Matrix for the purpose of analyzing the teacher-pupil interaction.

The IDER data were interpreted on the basis of thirteen ratios which provided a description of the classroom climate. The manner of computing these ratios has been shown and the results obtained have been discussed.

In any classroom one or more of three events is taking place: either the teacher is talking, a pupil is talking, or there is silence or confusion. The IDER Matrix data show that teachers talked on the average 50.6% of the time, of which 35% was direct; pupils talked about 23.4% of the time, of which 5% was restricted; and there was silence or confusion 25.2% of the time, of which nearly 4% was uncomfortable and disorganized. Teacher-pupil interaction of the Encouraging variety accounted for approximately 80% of the elapsed coding time, the remaining 20% of elapsed coding time involved events of the Restricting variety. In effect about one-fifth of the instructional time was taken up by teachers either giving orders, or using criticism, and of learners resisting the teachers' influence and attempt to motivate or control the class.

The amounts of Encouraging and Restricting Teacher Talk, Pupil Talk, Silence, or Confusion were determined. Few statements were found in the categories of pupil feeling, praise, and use of students' ideas. Of those events classified in these categories, over one-half were found to be restricting in their effect. One-third of the events falling within the categories of giving directions, or criticism as well as the same fractions in the area of pupil initiation, were also restricting.

Wide variations were found among the teachers in the sample. Teachers lectured to their classes from 8% to 30% of the elapsed coding time. Pupils talked slightly more than average. Less than one-third of total pupil talk was initiated by the students, and of this amount (7.4%) almost one-half was restricted by the teachers.

The ratio of Indirect to Direct teacher influence (both Encouraging and Restricting) showed that teachers' behavior was twice as direct as it was indirect. The mean value of 0.871 for the I/D - Restr. Ratio showed teachers were direct about as often as they were indirect. This result may be somewhat misleading without considering the fact that all events classified in the categories which are involved in calculating this ratio, have a restricting influence, whether direct or indirect. The results of the I/D ratios reflect a tendency towards a defensive climate rather than to a supportive one. Freedom of pupils to respond tended to be limited.

Data displayed in Table 5-7 showed percentages of the total coded events in the IDER Matrix involving teacher talk, pupil talk, and silence or confusion. These were compared with Flanders' normative expectations. Teachers talked less than the average expectation; silence or confusion was double the expected average. In a sense, teachers "taught" less time, and pupils "worked" a longer period of time than is usually found.

Although teachers talked less than the average, over half the talking they did was devoted to lecturing, with 10% taken up in persisting to lecture in spite of cues of inattention and restlessness from the pupils. Teacher questioning employed 35.7% of total teacher talk, with 14.4% restricting. Pupil response was divided between Categories 8 and 9, Encouraging, 77.8% and 22.1% respectively. Categories 18 and 19 revealed a different pattern -- 33.4% of total pupil talk, restricting, was in direct response to teachers' questions (but the responses were ignored), and 66% of the total pupil talk was restricted.

Results of the Pupil Initiated Talk Ratio showed that the major contact within the classroom interaction was initiated by the teachers.

Results of the Teacher Response Ratios indicated that the major influence in classroom interaction was to limit students' freedom to respond, to be distinctly directive, and unresponsive to students in the special class.

The TQR 89 results demonstrate that the special class teachers' immediate reaction when pupils stopped speaking was to lecture as opposed to question. Such behavior is associated with direct influence.

Examination of teachers' response behavior immediately after pupils stopped speaking revealed teacher behavior was mainly in the direction of using criticism, giving directions, or justifying authority, rather than in the direction of using praise, giving encouragement, or extending students' ideas. The decidedly low TRR 89 of 44% is seen as having a restricting influence in teacher-pupil interaction.

A typical drill pattern of instruction, combined with teacher unresponsiveness, restricted pupil talk, and a low frequency of pupil initiation would imply a narrow range of cognitive experiences for students in the classrooms of this investigation.

# CHAPTER 6

## ADDITIONAL FINDINGS -- MTAI AND MCI RESULTS

Teachers differ in their attitudes of warmth and permissiveness toward pupils. Classes differ in the perceptions of pupils toward their teachers and the learning environment (Yee, 1968, p. 275). These two aspects of teacher-pupil interaction in ten opportunity classrooms were examined by means of the MTAI and MCI.

A number of research questions were raised in Chapter 2. Among these were the following:

1.0 What attitudes do teachers in opportunity classrooms have toward E.M.R. children and teaching?

1.1 Is there a significant difference between MTAI scores of special education teachers and mean scores as set forth in the normative data for the MTAI instrument?

2.1 Is there a significant relationship between teachers' verbal and nonverbal classroom behavior as measured by Flanders-Galloway category systems and the MTAI scores of teachers of E.M.R. classes?

## MTAI Results

The main purpose of using the MTAI in the present study was to determine what differences, if any, may exist between the total MTAI attitude scores of the ten O.C. teachers in the major study and the normative data of the MTAI instrument. Summarized results of the MTAI scores for the ten teachers in the major study are shown in Table 6-1. Calculated means and standard deviations for the teachers in the major study are included for comparison with the norms provided for the MTAI. Table 6-1 also includes a display of data based on a larger sample of 160 additional teachers representing a number of special education services; viz., Adaptation Classes, Glenrose School Hospital, Institutional Services, Alberta School for the Deaf, Public School Classes for the Hearing Impaired, L.Y. Cairns Vocational School (Senior E.M.R.), and Primary and Junior O.C. rooms.

A secondary interest in how a much larger group of special education teachers would rate in respect to an assessment of their attitudes, led to broadening the base (170, inclusive of the 10 original teachers). With this base it was possible to obtain the normalized varimax rotated loadings for a number of attitude dimensions rather than just one, and to examine the factorial structure of the MTAI in relation to 170 special education teachers' responses. The results of analyzing the total

TABLE 6-1

TOTAL MTAI SCORES, MEANS, STANDARD DEVIATIONS FOR THE TEN TEACHERS, PLUS 160 OTHER SPECIAL CLASS TEACHERS, AND COMPARISONS WITH MTAI NORMS

| Teachers (N=10) | MTAI Score | | | Major Study | Wider Sample | MTAI Norms |
|---|---|---|---|---|---|---|
| *1 | 8 | Training | | N = 5/10 | N=24/160 | |
| *2 | 93 | 2 years | Mean | 39.2 | 26.4 | 40.1 |
| 3 | 65 | | S.D. | 31.7 | 30.7 | 37.2 |
| 4 | 16 | | | | | |
| 5 | 82 | Training | | N = 5/10 | N=136/160 | |
| *6 | 44 | 4 years | Mean | 58.4 | 39.7 | 55.1 |
| *7 | 6 | | S.D. | 24.8 | 33.5 | 36.7 |
| 8 | 82 | | | | | |
| *9 | 45 | *2 years training | | | | |
| 10 | 47 | | | | | |

responses to the 150 items of the MTAI are compared later in this chapter with the factor analytic studies of other investigators (Horn & Morrison, 1965; Yee & Fruchter, 1971; Bailey, 1973).

Possible raw scores for the 150 item Inventory range from a maximum of 150 to a minimum of -150. The normative mean score for experienced elementary teachers with two years training is 40.1, with a standard deviation of 37.2; for teachers with four or more years training the mean and standard deviation are 55.1 and 36.7 respectively (Cook, Leeds, & Callis, 1952, p. 9).

The mean score of 39.2 for five of the teachers in the major study having two years training compares favourably with norms for the MTAI. In fact the scores are nearly identical. A standard deviation of 31.7 for these five teachers, as compared with the norm of 37.2, indicates their scores fell within a slightly smaller range. It should be pointed out, though, that the mean MTAI of 39.2 is based on a set of only five scores, with one of these well outside the normal range. Teacher 2 scored unusually high with a value of 93. Teachers 1 and 7 fell at the other extreme with lows of 8 and 6, respectively. Further inspection of Table 6-1 shows that the remaining five teachers who had four or more years training, obtained an MTAI mean score of 58.4, ranging from a low of 16 to highs of 82. These results again compare favourably with normative values for the MTAI. The data indicate, therefore, that the teachers of the major study possessed attitudes which were neither more favourable nor less favourable than those on whom the MTAI norms were based.

When mean scores for those teachers comprising the wider sample are examined, a different picture can be seen. Regardless of whether teachers were two-year or four-year trained, without exception their MTAI scores on the average, were fifteen points below the normative values (26.4 vs. 40.1; 39.7 vs. 55.1). In addition, standard deviations for the two groups in the wider sample indicate the occurrence of negative scores among the two-years group, and scores ten or more points lower among the four-years group, when compared with the normal standard deviation.

In answer to the question about the attitudes held by special education teachers in this investigation, judged by their mean MTAI score, and the difference between this obtained score and the MTAI norms, no difference can be reported for the ten teachers in the major study. When individual cases approaching the extremes of the range of MTAI scores are considered, attitudes are distributed from anti-democratic, autocratic, negative, and rejecting to pro-democratic, permissive, positive, and accepting.

If the assumption of the authors of the MTAI is correct, that teachers obtaining higher scores are more likely to enjoy children and create warm, positive relationships with them, one would expect to find this influence reflected in the classroom climates created by the different teachers' behavior. The large variances typical of MTAI results make it difficult, however, to classify types of teachers (Yee, 1967, p. 153).

IDER matrix findings reported in Chapter 5 showed that about one-fifth of the instructional time was taken up by the teachers either giving orders, or using criticism, and of learners resisting the teachers' influence and attempt to motivate or control the class; that a significant portion of classroom interaction was of a restricting nature; that teachers' behavior was twice as direct as it was indirect; that results of the I/D ratios reflected a tendency towards a defensive climate rather than a supportive one; that freedom of pupils to respond tended to be limited; and that teachers tended to be unresponsive to students in the special class. Research question number 2.1 was asked to determine the relationship between teachers' MTAI scores and their classroom behavior as described by the various ratios of the IDER matrix.

Results of the investigation of social-emotional climate in ten O.C. classrooms have shown no clear pattern of teacher influence in relation to attitude scores of the MTAI. In fact apparent contradictions were evident. For example, ratio values for the I/D Total ranged from 0.297 to 0.952. The lowest ratio value of 0.297 was obtained by Teacher 2, who scored highest with a 93 on the MTAI. The highest ratio value of 0.952 was obtained by Teacher 8 who scored second highest with an 82 on the MTAI. Teacher 5, who also scored 82 on the MTAI, had an I/D Total of 0.565, and Teacher 7 who scored lowest in the study with a 6 on the MTAI, showed an I/D Total of 0.515. It should be noted that the ratios for six other teachers, all with much higher MTAI scores, fell below this value. Other illustrations of conflicting results and inconsistencies between MTAI and IDER matrix results could be given.

We are forced to conclude that no significant relationship could be discerned in our study of the 10 O.C. classrooms between the teacher's verbal and nonverbal classroom behaviors as measured by Flanders-Galloway categories systems and the MTAI scores of the special class teacher.

Returning to Table 6-1, when MTAI scores for 160 teachers are compared with the test norms (26.4 vs. 40.1 and 39.7 vs. 55.1), important differences between attitudes of the special education teachers and those of the MTAI normative sample, would appear to exist. An interesting feature of the finding that such a large number of special education teachers, as a group, exhibit attitudes tending toward negative opinions about children, is the decidedly low mean scores of teachers of the deaf and of the hearing handicapped. Such a within group variance significantly influenced the occurrence of the fifteen point lowered mean scores for both the two-year, and the four-year trained teachers in the total group of 160 teachers.

Table 6-2 shows MTAI mean scores and ranges of the sub groups within the sample of 170 special education teachers -- the 160 comprising the wider sample, plus the 10 included in the major study.

## MTAI Factor Analysis

Horn & Morrison (1971) research indicated that the total MTAI score is a measure comprised of several attitude dimensions rather than one (p. 120). In order to gain further insight into the nature of the various attitude dimensions of a reasonably large group of special education teachers, the responses of 170 teachers to the 150 items of the MTAI were subjected to a factor analysis study. The size of the sample represented slightly more than the minimum required for validity (DERS, Program

## TABLE 6-2

## MEAN SCORES AND RANGES FOR SEVEN SUB-GROUPS AND THE TOTAL GROUP

| Sub-Group | N | Mean MTAI | Range |
|---|---|---|---|
| Adaptation Classes | 18 | 47.6 | +7.0 to +112.0 |
| School Hospital | 24 | 42.7 | -13.0 to +105.0 |
| Institutional Services | 27 | 43.0 | - 4.0 to + 88.0 |
| E.M.R. (Secondary) | 47 | 31.5 | -40.0 to + 99.0 |
| E.M.R. (Primary-Junior) | 28 | 53.2 | + 6.0 to +101.0 |
| School for Deaf | 21 | 20.5 | -46.0 to + 69.0 |
| Hearing Handicap | 5 | 10.2 | -26.0 to + 74.0 |
| Total Group | 170 | 39.7 | -46.0 to +112.0 |

Documentation 360/67) and must be taken into consideration in any interpretation of the data. The effects of significantly lower mean MTAI scores for certain subgroups in the sample cannot be overlooked either, when viewing the various dimensions and factor loadings.

For the purpose of factor analyzing the responses to the 150 items a different scoring procedure was substituted for the empirical scoring key developed by the authors of the MTAI (Cook, et al., 1951). A special response form (Appendix 12) was designed to conform with the IBM 1230 optical scanner which produced IBM punched data cards for computer analysis.

Values ranging from 5 through 1 on a five-step Likert-type scale were assigned for each of the 150 responses, the higher values being assigned to responses indicating 'pro-democratic' attitudes and the lower values being assigned to responses indicating 'anti-democratic' or 'autocratic' attitudes. The possible range of total scores in this system was +750 to -750.

The IBM data cards were analyzed by the FACT o3 computer program found in Program Documentation 360/67 entitled "Factor Analysis Using Hotelling's Method," prepared by the Division of Educational Research Services (DERS) at the University of Alberta, Edmonton, Alberta. The program handles up to 150 variables, and was recommended for use with large data matrices required for tests like the MTAI (150 items).

Varimax rotations for 10, 8, 7, and 5 attitude dimensions were specified. Items with factor loadings of 0.40 or greater on each of five dimensions were considered for interpretation and are presented in Tables 6-3 through 6-7. A total of 63 items had loadings of 0.40 or greater and were used to define the factors. The five factors account for 26.03 percent of the total variance of the 150 items.

The five factors (dimensions) identified are described as follows:

Factor 1 - Emphasis on teacher authority and strict control

Factor 2 - Lack of understanding and concern for children's needs

Factor 3 - Pupils' independence in learning

Factor 4 - Disrespect for children's differences

Factor 5 - Unfavourable opinions concerning children

## Similarity Among Dimensions

Three studies of the factor content of the MTAI conducted in recent years (Horn & Morrison, 1965; Yee & Fruchter, 1967; and Bailey, 1973) have been selected for comparison with the present study in the assessment of teachers' attitudes. Horn & Morrison's research involved

## TABLE 6-3

### FACTOR 1. (Little)

### EMPHASIS ON TEACHER AUTHORITY AND STRICT CONTROL

| Item Number | Factor Loading | MTAI STATEMENTS |
|---|---|---|
| 19 | .482 | Pupils have it too easy in the modern school. |
| 21 | .413 | Pupils expect too much help from the teacher in getting their lessons. |
| 24 | .676 | Too many children nowadays are allowed to have their own way. |
| 36 | .499 | Most pupils lack productive imagination. |
| 46 | .417 | More "old-fashioned whippings" are needed today. |
| 48 | .533 | Increased freedom in the classroom creates confusion. |
| 50 | .651 | Teachers should exercise more authority over their pupils than they do. |
| 54 | .488 | Most children lack common courtesy toward adults. |
| 57 | .452 | Many teachers are not severe enough in their dealings with pupils. |
| 63 | .481 | Too much nonsense goes on in many classrooms these days. |
| 65 | .537 | Children are too carefree. |
| 75 | .598 | No child should rebel against authority. |
| 76 | .642 | There is too much leniency today in the handling of children. |
| 80 | .751 | Children nowadays are allowed too much freedom in school. |
| 84 | .499 | A teacher should not tolerate use of slang expressions by his pupils |
| 88 | .431 | Throwing of chalk and erasers should always demand severe punishment. |
| 92 | .445 | There are too many activities lacking in academic respectability that are being introduced into the curriculum of the modern school. |
| 95 | .479 | Children should not expect talking privileges when adults wish to speak. |

TABLE 6-3 (continued)

FACTOR 1 (Little)

| Item Number | Factor Loading | MTAI STATEMENTS |
|---|---|---|
| 104 | .460 | Teachers should consider problems of conduct more seriously than they do. |
| 109 | .554 | Young people nowadays are too frivolous. |
| 110 | .630 | As a rule teachers are too lenient with their pupils. |
| 116 | .560 | Most pupils have too easy a time of it and do not learn to do real work. |
| 118 | .545 | A pupil found writing obscene notes should be severely punished. |
| 122 | .401 | It is difficult to understand why some children want to come to school so early in the morning before opening time. |
| 126 | .696 | Children today are given too much freedom. |
| 128 | .467 | Children are not mature enough to make their own decisions. |

## TABLE 6-4

## FACTOR 2. (Little)

## LACK OF UNDERSTANDING AND CONCERN FOR CHILDREN'S NEEDS

| Item Number | Factor Loading | MTAI STATEMENT |
|---|---|---|
| 2 | .429 | Pupils who "act smart" probably have too high an opinion of themselves. |
| 34 | .494 | A teacher should never acknowledge his ignorance of a topic in the presence of his pupils. |
| 43 | .567 | A good motivating device is the critical comparison of a pupil's work with that of other pupils. |
| 59 | .487 | A teacher should always have at least a few failures. |
| 60 | .405 | It is easier to correct discipline problems than it is to prevent them. |
| 67 | .526 | Pupils who are foreigners usually make the teacher's task more unpleasant. |
| 86 | .516 | If a child wants to speak or to leave his seat during the class period, he should always get permission from the teacher. |
| 99 | .566 | Children have no business asking questions about sex. |
| 100 | .484 | Children must be told exactly what to do and how to do it. |
| 103 | .612 | Shy pupils especially should be required to stand when reciting. |
| 115 | .424 | Classroom rules and regulations must be considered inviolable. |
| 119 | .546 | A teacher seldom finds children really enjoyable. |
| 120 | .499 | There is usually one best way to do school work which all pupils should follow. |
| 124 | .475 | Children are usually too inquisitive. |
| 129 | .577 | A child who bites his nails needs to be shamed. |
| 131 | .603 | There is no excuse for the extreme sensitivity of some children. |

## TABLE 6-5

## FACTOR 3. (Little)

## PUPILS' INDEPENDENCE IN LEARNING

| Item Number | Factor Loading | MTAI STATEMENT |
|---|---|---|
| 53 | .449 | There is too much emphasis on grading. |
| 71 | .480 | Children should be allowed more freedom in the execution of learning activities. |
| 89 | .438 | Teachers who are liked best probably have a better understanding of their pupils. |
| 91 | .538 | Most teachers do not give sufficient explanation to their teaching. |
| 93 | .542 | Children should be given more freedom in the classroom than they usually get. |

## TABLE 6-6

## FACTOR 4. (Little)

## DISRESPECT FOR CHILDREN's DIFFERENCES

| Item Number | Factor Loading | MTAI STATEMENT |
|---|---|---|
| 17 | .427 | There are times when a teacher cannot be blamed for losing patience with a pupil. |
| 56 | .493 | At times it is necessary that the whole class suffer when the teacher is unable to identify the culprit. |
| 57 | 0.420 | Many teachers are not severe enough in their dealings with pupils |
| 98 | .489 | Pupils can be very boring at times. |
| 107 | .413 | There is nothing that can be more irritating than some pupils. |
| 111 | .534 | Slow pupils certainly try one's patience. |
| 112 | .462 | Grading is of value because of the competition element. |

## TABLE 6-7

## FACTOR 5 (Little)

## UNFAVOURABLE OPINIONS CONCERNING CHILDREN

| Item Number | Factor Loading | MTAI STATEMENT |
|---|---|---|
| 1 | -.466 | Most children are obedient. |
| 6 | .414 | Most pupils don't appreciate what a teacher does for them. |
| 23 | .418 | Most pupils do not make an adequate effort to prepare their lessons. |
| 38 | -.508 | The majority of children take their responsibilities seriously. |
| 79 | .512 | Children usually have a hard time following instructions. |
| 90 | -.428 | Most pupils try to make things easier for the teacher. |
| 96 | .438 | Pupils are usually slow to "catch on" to new material. |
| 101 | -.535 | Most pupils are considerate of their teachers. |

306 subjects who were student teachers; Yee & Fruchter investigated the attitudes of 368 practicing intermediate school teachers; Bailey's work was based on 154 student teachers. This study used 170 practicing special education teachers. Factors isolated by the other three researchers are presented in Appendices 30 to 42. It will be seen that in spite of the difference in the comparison of the samples of the four respective factor analysis studies, a number of similarities can be noted. The titles of the factors in the various studies point to numerous shared items among the four investigations. Shared items in the studies are shown in Tables 6-8 through 6-12. Table 6-13 summarizes and compares the definitions of the Factors for each of the studies.

Little's study showed 27 items for Factor 1 (Table 6-3). The largest proportion of the extracted variance (35.01%) is accounted for by this Factor. Fifteen of Horn & Morrison's 17 items on Factor 1, 17 of Yee & Fruchter's 20 items, and 13 of Bailey's 31 items for this same Factor, were shared by Little. Of the remaining 10 items in Little's first Factor, 2 appeared in Horn & Morrison's 22 items of Factor 3, and 1 in their 7 items of Factor 4; 2 in Yee & Fruchter's 12 items of Factor 3; 1 in Bailey's 17 items of Factor 2, and 4 in his 7 items of Factor 3.

## TABLE 6-8

## SIMILARITY OF ITEMS FOR FACTOR 1

## HORN & MORRISON, YEE & FRUCHTER, BAILEY, LITTLE

| Horn & Morrison | Yee & Fruchter | Bailey | Little |
|---|---|---|---|
| - | - | 11 | - |
| 12 | - | - | - |
| - | - | - | - |
| - | - | 13 | - |
| - | - | 15 | - |
| 19 | 19 | 19 | 19 |
| 21 | 21 | - | 21 |
| 23 | 23 | - | - |
| 24 | 24 | - | 24 |
| - | - | 27 | - |
| 35 | 35 | 35 | 35 |
| - | 36 | - | 36 |
| - | - | - | 46 |
| - | - | 47 | - |
| - | - | - | 48 |
| - | - | 49 | - |
| 50 | - | 50 | 50 |
| - | 52 | 52 | - |
| - | 54 | - | 54 |
| - | - | 56 | - |
| 57 | - | 57 | 57 |
| 63 | 63 | - | 63 |
| - | - | 64 | - |
| 65 | 65 | - | 65 |
| - | - | 72 | - |
| - | 75 | 75 | 75 |
| 76 | 76 | 76 | 76 |
| 80 | 80 | 80 | 80 |
| - | - | 82 | - |
| - | - | 84 | 84 |
| - | - | 85 | - |
| - | - | 86 | - |
| - | - | - | 88 |
| 92 | 92 | - | 92 |
| - | - | 93 | - |
| - | - | 95 | 95 |
| - | - | 102 | - |
| 104 | - | - | 104 |

TABLE 6-8 (continued)

SIMILARITY OF ITEMS FOR FACTOR L

| Horn & Morrison | Yee & Fruchter | Bailey | Little |
|---|---|---|---|
| - | - | 108 | - |
| - | 109 | 109 | 109 |
| 110 | 110 | 110 | 110 |
| - | 114 | - | - |
| - | - | 115 | - |
| 116 | 116 | - | 116 |
| - | - | 118 | 118 |
| - | - | 121 | - |
| - | - | - | 122 |
| 126 | 126 | 126 | 126 |
| - | 128 | - | 128 |

## TABLE 6-9

## SIMILARITY OF ITEMS FOR FACTOR 2

## HORN & MORRISON, YEE & FRUCHTER, BAILEY, LITTLE

| Horn & Morrison | Yee & Fruchter | Bailey | Little |
|---|---|---|---|
| - | - | - | 2 |
| 6 | - | - | - |
| - | 20 | - | - |
| 22 | - | - | - |
| 25 | - | - | - |
| 29 | - | - | - |
| 30 | - | - | - |
| - | 34 | - | 34 |
| 37 | - | - | - |
| 38 | - | - | - |
| - | - | - | 43 |
| - | - | 58 | - |
| - | - | - | 59 |
| - | - | - | 60 |
| - | - | - | 67 |
| - | - | 71 | - |
| 74 | - | - | - |
| 77 | - | - | - |
| 83 | - | - | - |
| - | - | - | 86 |
| 94 | - | - | - |
| 96 | - | - | - |
| - | 99 | 99 | 99 |
| - | - | - | 100 |
| - | - | - | 103 |
| 106 | - | - | - |
| 113 | - | - | - |
| 114 | - | - | - |
| - | - | - | 115 |
| 119 | 119 | 119 | 119 |
| - | - | - | 120 |
| - | 121 | - | - |
| - | - | 122 | - |
| 124 | 124 | 124 | 124 |
| 128 | - | - | - |
| - | - | 129 | 129 |
| - | 131 | 131 | 131 |

## TABLE 6-9 (continued)

## SIMILARITY OF ITEMS FOR FACTOR 2

| Horn & Morrison | Yee & Fruchter | Bailey | Little |
|---|---|---|---|
| 132 | 132 | 132 | - |
| - | 133 | 133 | - |
| 134 | 134 | 134 | - |
| - | - | 135 | - |
| - | 136 | - | - |

### TABLE 6-10

### SIMILARITY OF ITEMS FOR FACTOR 3

### HORN & MORRISON, YEE & FRUCHTER, BAILEY, LITTLE

| Horn & Morrison | Yee & Fruchter | Bailey | Little |
|---|---|---|---|
| 2 | - | - | - |
| 10 | - | - | - |
| 11 | - | - | - |
| 13 | 13 | - | - |
| - | - | 23 | - |
| - | - | 24 | - |
| - | 27 | - | - |
| 28 | - | - | - |
| 32 | - | - | - |
| - | - | 36 | - |
| 41 | - | - | - |
| 43 | - | - | - |
| 44 | - | - | - |
| 47 | 47 | - | - |
| - | - | - | 53 |
| 56 | - | - | - |
| - | - | 61 | - |
| - | - | 63 | - |
| 69 | - | - | - |
| 70 | - | - | - |
| - | - | - | 71 |
| 72 | 72 | - | - |
| 75 | - | - | - |
| - | - | 79 | - |
| - | 81 | - | - |
| 85 | 85 | - | - |
| 86 | 86 | - | - |
| 88 | 88 | - | - |
| - | - | - | 89 |
| - | - | - | 91 |
| - | - | - | 93 |
| 100 | - | - | - |
| 103 | 103 | - | - |
| 115 | 115 | - | - |
| - | - | 116 | - |
| - | 118 | - | - |
| 129 | 129 | - | - |

# TABLE 6-11

## SIMILARITY OF ITEMS FOR FACTOR 4

## HORN & MORRISON, YEE & FRUCHTER, BAILEY, LITTLE

| Horn & Morrison (Factor 5) | Yee & Fruchter | Bailey | Little |
|---|---|---|---|
| 15 | 15 | - | - |
| - | 16 | - | - |
| - | - | - | 17 |
| - | 53 | - | - |
| - | - | - | 56 |
| - | - | - | 57 |
| 64 | 64 | - | - |
| - | 71 | - | - |
| - | 77 | - | - |
| 93 | 93 | - | - |
| - | - | - | 95 |
| - | - | - | 107 |
| - | - | - | 111 |
| - | - | - | 112 |
| 140 | - | - | - |

## TABLE 6-12

## SIMILARITY OF ITEMS FOR FACTOR 5

| Horn & Morrison (Factor 4) | Yee & Fruchter | Bailey | Little |
|---|---|---|---|
| - | 1 | - | 1 |
| - | - | - | 6 |
| 7 | - | - | - |
| 14 | - | - | - |
| - | - | - | 23 |
| 31 | - | - | - |
| - | - | - | 38 |
| 67 | - | - | - |
| - | - | - | 79 |
| - | 90 | - | 90 |
| - | - | - | 96 |
| - | 101 | - | 101 |
| - | 107 | - | - |
| 111 | - | - | - |
| - | 113 | - | - |
| 122 | - | - | - |
| 139 | - | - | - |
| - | 146 | - | - |

Seven of Little's 27 items were shared by all three of the comparison studies; 9 were shared with two of the other studies; 7 were shared by only one; 4 were not shared by any; 2 were particular to this investigation.

The large variance contribution of Factor 1 together with its content revealed that items (for the most part) state that children today are not being forced to do enough things, are not having their behavior properly restricted, and are not, therefore, studying and learning as they should.

There is an overall negativism in the statements loaded on this Factor which suggests, if favoured, authoritarian, pessimistic, reproachful evaluations of children. Disagreement with Factor 1 items would imply a permissive, accepting, warm, sympathetic, supportive attitude toward children. Relevant to the negative versus positive dimensions of Factor 1 may be what Flanders (1964) called "direct" and "indirect" teacher influence (Yee & Fruchter, 1971, p. 123).

Factor 2 accounted for 23.68% of the common variance and contained 16 items. Only 2 were common to Horn & Morrison's 23 items; 5 of Yee & Fruchter's 15 items; and 5 of Bailey's 17 items. Of the remaining items, 7 were shared with Horn & Morrison's 22 items contained in Factor 3, and 1 of 7 items in Factor 4; 4 were shared with Yee & Fruchter's 12 items in Factor 3; and 2 of

R

Bailey's 31 items in Factor 1.

Two items were common to the other three studies; 2 were common to two; two were common to one; 10 were not shared with any (for Factor 2, but 7 were common to other dimensions than that of Factor 2); 3 items were particular to this investigation.

Examination of the content of items in Factor 2 (Table 6-4) indicated about one-third coincided with one-third of the items in the Yee & Fruchter and the Bailey studies, in addition to one-third of the Factor 3 items of the Horn & Morrison, and Yee & Fruchter studies.

The overlapping which is evident here and the lack of close similarity among the items which seemed most to be describing the same Factor, points to a difference in the emphasis which teachers in Little's study placed on various attitude statements. To what degree this represents an actual difference in special education teachers' attitudes from those of the three comparison studies, is open to conjecture.

The differences which appeared in the examination of Factor 2 items were increasingly apparent in Factors 3, 4, and 5. None of Little's 5 items contained in Factor 3, nor the 7 items contained in Factor 4 was shared by the other studies. Three of Little's 8 items in Factor 5 were shared with 3 of Yee & Fruchter's 6 items of Factor 5.

The 5 items of Factor 3 appeared in a number of the Factors of the other studies. One was shared by each of Bailey's Factors 1 and 2; 3 with Yee & Fruchter's Factor 4; and 1 with Horn & Morrison's Factor 5.

The 7 items of Factor 4 showed a similar dispersal among Factors of the other studies. One was shared with Bailey's Factor 1; 1 with each of Horn & Morrison's Factors 3 and 4; and 1 with Yee & Fruchter's Factor 5.

Of the 8 items of Factor 5, 3 were shared with Yee & Fruchter's Factor 5, and 1 with their Factor 1; 3 with Horn & Morrison's Factor 2; and 2 with Bailey's Factor 3.

Items 46, 48 of Factor 1 and 59, 60, 120 of Factor 2 and 89, 91 of Factor 3 and 17, 98, 112 of Factor 4 were unique to this investigation -- a total of 10 out of the 63 items comprising the five Factors.

As fewer items were being shared in the progression from Factor 2 to Factor 5, a corresponding dissimilarity could be noted among the descriptive titles which defined the various Factors (Table 6-13). No clear pattern of Factors emerged from a comparison of the four investigations. It would seem apparent, however, that the MTAI measures something more than a unidimensional bipolar attitude.

TABLE 6-13

DEFINITIONS OF FIVE FACTORS FOR THE FOUR STUDIES

| Factor | Investigator | Factor Defined | No. of Items |
|---|---|---|---|
| 1 | Horn & Morrison | Traditionalistic vs.Modern Beliefs About Child Control | 17 |
| | Yee & Fruchter | Children's Irresponsible Tendencies and Lack of Self-discipline | 20 |
| | Bailey | The Importance of Discipline and Control in the Education of Children | 31 |
| | Little | Emphasis on Teacher Authority and Strict Control | 27 |
| 2 | Horn & Morrison | Unfavourable vs. Favourable Opinions about Children | 23 |
| | Yee & Fruchter | Conflict between Teachers' and Pupils' Interests | 15 |
| | Bailey | Concern or Lack of Concern for the Needs and Interests of Children | 17 |
| | Little | Lack of Understanding and Concern for Children's Needs | 16 |
| 3 | Horn & Morrison | Punitive Intolerance vs. Permissive Tolerance for Child Misbehavior | 22 |
| | Yee & Fruchter | Rigidity and Severity in Handling Pupils | 12 |
| | Bailey | Unfavourable Opinions about Children | 7 |
| | Little | Pupils' Independence in Learning | 5 |
| 4 | Horn & Morrison | Aloof vs. Involved Attitude toward Children | 7 |
| | Yee & Fruchter | Pupils' Independence in Learning | 7 |
| | Little | Disrespect for Children's Differences | 7 |

TABLE 6-13 (continued)

DEFINITIONS OF FIVE FACTORS FOR THE FOUR STUDIES

| Factor | Investigator | Factor Defined | No. of Items |
|---|---|---|---|
| 5 | Horn & Morrison | Laissez-Faire *vs*. Controlling Attitude toward Children | 4 |
|  | Yee & Fruchter | Pupils' Acquiescence to the Teacher | 6 |
|  | Little | Unfavourable Opinions Concerning Children | 8 |

The disconcerting finding in the factor analytic study of the 170 special education teachers, is that a large proportion of the 63 items making up the five Factors, is overwhelmingly concerned with unfavourable perceptions of children and modern child control. What an individual holds to be true characteristics of children and their control would tend to pervade his behavioral tendencies toward children (Yee & Fruchter, 1971, p. 129).

It should be remembered that the MTAI is heavily loaded with items sampling a "traditional" life-view. This could explain in part the possibility of a response set which favoured attitude dimensions in the direction of a tough-minded vs tender-minded approach to classroom control.

In order to gain some understanding of how the ten teachers of the major study fared on the various attitude dimensions (Factors), their responses were singled out for examination, and are shown in Appendix 14. A more detailed discussion in respect to individual teachers will be considered in a later chapter.

With the exception of one or two teachers (whose total MTAI scores were lowest) the general response pattern was to disagree with items which characterized teacher authority and strict discipline. Two or three teachers were undecided about most items in Factors 1, 3, and 4.

On the whole, teachers displayed a positive attitude reflecting understanding and acceptance of children's differences, contrary to the factor loadings displayed by teachers in the large sample. To what extent these positive attitudes generalized to the teachers' classroom behaviours is an important question. There is an assumption here that people behave in direct relation to expressed attitudes. This may not be entirely the case. Results of the IDER findings are a case in point. Everyone is familiar enough with the charge of 'public virtues which conceal private atrocities'.

The implication is not that a number of Dr. Jekyl-Mr. Hydes have been identified, but the evidence on teacher-pupil interaction in Chapter 5 does not support teacher behavior which might be expected to be consistent with the findings of the MTAI factor analysis for the 10 teachers in the major study.

One possible explanation lies in the tendency of teachers to react less favourably toward lower SES children. Yee's (1968) analyses indicated many instances of teacher dominance over lower class pupils in attitude relationships (p. 278). It is generally accepted that the bulk of cultural familial retarded fall in this category. There is as well the influence which lower expectation may create.

Another explanation may be associated with the disparity which appears to exist between teachers' stated goals and role perceptions and their modus operandi. Chapter 4 anticipated this possibility, and questions were included in the informal questionnaire to survey special class teachers' motivation and task analysis. For all the well-intentioned views expressed, emotional strengths and personal skills may not be apace with intellectualized ideas about child control and instructional approaches.

The failure of a closer correspondence between teachers' expressed attitudes and observed teacher behavior in the classroom may be another example of the proverbial gulf between theory and practice.

### MCI Results

Classroom climate was measured with the My Class Inventory (MCI). Two forms of the MCI were used -- Primary and Elementary. The Primary form contains 35 items; the Elementary form 45 items. Both forms sample aspects of classroom life characterized by five dimensions, namely, Satisfaction, Friction, Competition, Difficulty, and Intimacy or Cohesiveness. The reading difficulty levels as determined by Spache's Readability Formula showed an overall reading level of Gr. 1.6 for the Primary form, and Gr. 2.6 for the Elementary form. In view of the known reading difficulties of EMR children, the MCI was administered by reading it to the pupils individually.

The MCI was presented to the 114 E.M.R. children in the sample -- 55 Juniors (age 6-9) and 59 Elementary (age 10-13). Three Junior's answer forms were rejected as invalid owing to bizzare or nil responses.

The children were asked to agree or disagree with the various items by encircling Yes or No on the response sheet. "Yes" responses scored 3; "No" responses scored 1, except in certain cases in which the polarities were reversed (yes = 1, no = 3). In some instances reversed polarities involved items stated negatively (e.g., Most children don't care who finishes first; some of the pupils don't like the class). Paired with the possibility of a "no" response, the double negative thus created proved difficult for many of the children, and often confused them.

The MCI is not a unitary scale. A single, or total, climate score is therefore not possible. Social-emotional classroom climate is expressed as the scores on the five independent dimensions, as shown in Table 6-14. Owing to the difference in the number of items on the two forms of the inventory, total mean scores cannot be compared for the different teachers' classes. This was overcome by computing mean response score per item, for each of the 5 dimensions. These are shown in Table 6-14 also.

## TABLE 6-14

## PRIMARY AND ELEMENTARY MCI CLIMATE SCORES, MEAN SCORE PER ITEM, MEANS AND RANGES FOR 111 E.M.R. CHILDREN

|  | PRIMARY (N = 52) |  |  |  |  | ELEMENTARY (N = 59) |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|
| Dimension | T-2 | T-3 | T-5 | T-7 | T-8 | T-1 | T-4 | T-6 | T-9 | T-10 |
| SATISFACTION | 19.3 | 15.9 | 18.8 | 19.4 | 19.8 | 24.4 | 21.2 | 21.5 | 22.0 | 22.0 |
| ($\bar{X}$ item score) | 2.75 | 2.27 | 2.68 | 2.77 | 2.83 | 2.71 | 2.35 | 2.39 | 2.44 | 2.44 |
| FRICTION | 11.2 | 11.8 | 9.1 | 11.1 | 10.7 | 14.6 | 21.7 | 19.4 | 17.5 | 21.4 |
| ($\bar{X}$ item score) | 1.86 | 1.96 | 1.51 | 1.85 | 1.70 | 1.62 | 2.41 | 2.15 | 1.95 | 2.38 |
| COMPETITION | 16.8 | 15.8 | 16.5 | 17.4 | 15.2 | 21.4 | 23.0 | 21.5 | 22.8 | 20.6 |
| ($\bar{X}$ item score) | 2,40 | 2.25 | 2.35 | 2.48 | 2.17 | 2.38 | 2.55 | 2.38 | 2.53 | 2.28 |
| DIFFICULTY | 12.5 | 12.5 | 12.3 | 13.2 | 12.3 | 17.1 | 19.5 | 16.1 | 17.3 | 18.5 |
| ($\bar{X}$ item score) | 1.78 | 1.78 | 1.75 | 1.86 | 1.75 | 1.90 | 2.16 | 1.78 | 1.92 | 2.05 |
| INTIMACY | 21.8 | 18.2 | 20.9 | 21.3 | 21.0 | 24.7 | 22.2 | 21.9 | 24.0 | 23.5 |
| ($\bar{X}$ item score) | 2.72 | 2.27 | 2.61 | 2.67 | 2.62 | 2.94 | 2.46 | 2.43 | 2.66 | 2.61 |
| TEACHER'S MTAI SCORE | 93 | 65 | 82 | 6 | 82 | 8 | 16 | 44 | 45 | 47 |

TABLE 6-14 (continued)

PRIMARY AND ELEMENTARY MCI CLIMATE SCORES, MEAN SCORE PER ITEM, MEANS AND RANGES FOR L11 E.M.R. CHILDREN

| | SATISFACTION | FRICTION | COMPETITION | DIFFICULTY | INTIMACY |
|---|---|---|---|---|---|
| MEAN SCORE PER ITEM -- ALL TEACHERS | 2.66 | 1.94 | 2.38 | 1.88 | 2.60 |
| RANGE OF MEAN SCORES -- ALL TEACHERS | 2.83-2.27 | 2.41-1.51 | 2.55-2.17 | 2.16-1.75 | 2.94-2.27 |

Values obtained for the 5 dimensions indicated substantially high mean item scores for Satisfaction (2.66), Competition (2.38), and Intimacy (2.60). Means ranged from 2.83 to 2.27, 2.55 to 2.17, 2.94 to 2.27, respectively.

Perceived Friction ranged from a high of 2.41 to a low of 1.51, with a mean item score of 1.94, indicating the presence of a reasonably high degree of Friction. This was corroborated by the taped interviews with the children who complained of fighting, noise, crying and hollering, the teacher's shouting and punishment (spanking, being hit with a yardstick, deprived of playtime, scolding, isolation, and being sent to the principal -- often for a strapping). In view of such reported events, one might have expected lower favourability towards school and the teachers. Such was not the case. Only in isolated cases could one identify children's rancor or overt hostility to the classroom situation.

A number of children stated they "did not know what they thought (felt)." Others appeared to have a low level of understanding of the questions they were being asked. It could be reasonably suggested that children in E.M.R. classes are either unaware of the influences in their school experience, or that the task of reflecting on the influence of the environment is foreign to them in that they have had only limited practice in expressing affective aspects which touch on life in the classroom.

Perceived Difficulty was rated comparatively low, with a mean item score of 1.88, ranging from 1.75 to 2.16, with increased Difficulty reported, almost without exception, for the Elementary level. At the Junior level there was practically no differentiation among the classes. (Two showed means of 1.75, two of 1.78, and one of 1.88.) The children at the Elementary level seemed more conscious of the difficulty of assigned tasks, or it may be they were more aware of the continuing inability to cope with the work. The individual interviews reflected a concern among the children about academic matters, and of being viewed as "dumb," or "retards."

It is interesting to note that there was a close correspondence between the rank ordering of teachers on the IDER ratios and the climate scores on the 5 dimensions, in spite of the small differences among the mean item values. In this respect the MCI was sensitive enough to demonstrate that pupils perceived teacher influence and that classroom climate was closely allied with the coded events of observed teacher behavior and classroom interaction. Bearing in mind the research limitations, conclusions based on the above findings can be applied only to this sample.

With respect to the relationship between MTAI scores and the results of the MCI, there were some curious contradictions. By way of illustration, among the five Junior class teachers, Teacher 7 with the lowest MTAI score (6) ranked second highest in pupil feelings of both Satisfaction and Intimacy, third highest (second lowest) in amount of Friction, and first in the degrees of both Competition and Difficulty. Teacher 2 with the highest MTAI score (93) ranked third in the level of Satisfaction, second in the most amount of Friction, Competition, and Difficulty, yet highest on Intimacy.

Inspection of the five Elementary class teachers showed similar incongruities. Teacher 1 with the lowest MTAI score (8) ranked highest in both Satisfaction and Intimacy, lowest amount of perceived Friction, and second lowest in the degree of Competition and level of Difficulty. Teacher 10 with the highest MTAI score (47) ranked second on pupils' Satisfaction, the amount of Friction and Difficulty, lowest on Competition in the class, and third in respect to Intimacy.

No clear pattern could be discerned. It appeared that the MTAI instrument was not valid as a predictor of teachers' influence based on E.M.R. children's perceptions, or opinions expressed by them in the audio-taped interviews. This is not surprising in view of the lack of correspondence between the IDER findings and MTAI scores. In fact the MCI results of pupils' ratings of classroom climate only serve to confirm what was learned from analysis of the IDER interaction matrix.

As a matter of further interest to determine teachers' perceptions of pupils and classroom climate, teachers were asked to rate both individual children (N = 101) and the class as a group, on questionnaires patterned after the MCI (Appendix 4 and 5). The five dimensions used to describe classroom climate on the MCI were preserved, employing the reduced number of 25 items. The instruments provided only a gross measure in an effort to assess how closely teachers' ratings of individuals and the group compared with pupils' ratings of similar classroom events. The findings are summarized in Table 6-15.

For comparison purposes both teachers' responses on the two questionnaires and pupils' responses on the MCI have been converted to percentage figures. Inspection of Table 6-15 shows that teachers viewed Satisfaction within the group (76%) quite closely with the level of Satisfaction based on their rating of individuals (70%). Pupils' responses on the MCI indicated an 88.7% level of Satisfaction. It would appear that the children had a greater sense of Satisfaction than their teachers accorded them. Considering that teachers were undecided

### TABLE 6-15

### TEACHERS' RATING ON FIVE DIMENSIONS OF CLASSROOM CLIMATE FOR THE GROUP AND FOR INDIVIDUALS WITHIN THE GROUP, AND MCI RESULTS OF PUPILS EXPRESSED AS PERCENTS

| Dimension | | Yes | Undecided | No | MCI Results |
|---|---|---|---|---|---|
| SATISFACTION | Class | 76 | 14 | 10 | 88.7 |
| | Individ. | 70 | 12 | 18 | |
| FRICTION | Class | 64 | 2 | 24 | 64.6 |
| | Individ. | 5 | 2 | 93 | |
| COMPETITION | Class | 62 | 0 | 38 | 79.3 |
| | Individ. | 26 | 6 | 68 | |
| DIFFICULTY | Class | 48 | 7 | 45 | 62.6 |
| | Individ. | 31 | 1 | 68 | |
| INTIMACY | Class | 70 | 2 | 28 | 86.6 |
| | Individ. | 68 | 4 | 28 | |

about 14% of the Satisfaction item responses, the discrepancy may be explained in these terms.

There was a significant difference in the amount of Friction as seen for the group and that perceived for individuals -- 64% oppored to 5%. Pupils indicated Friction amounted to 64% which coincided with teachers' ratings for that dimension for the class. Why the figure for the whole group does not equal the sum of its parts (individually) is not clear. Evidently the teachers recognized the existence of Friction within the classes, but were unable to relate it to individual youngsters' behavior. It would appear from the data that the teachers were not particularly good at assessing the children as individuals. It may be that they were willing to dismiss certain characteristics of individuals, but could not overlook these when considering the group in its totality. Could this be a part of the reason teachers "get mad at the class" (reject the group), but still feel favourably towards the individuals within it (i.e., accepts the individual child)? Unfortunately perceptions of the group may be a prime factor in influencing teachers' subsequent classroom behavior, notwithstanding attitudes as represented by MTAI score.

Again, with the Competition dimension, teachers showed a discrepancy in their ratings of the class and of individuals in it -- 62% opposed to 26%. The Teachers judged their classes as relatively competitive, but did not consider individuals as particularly so. Perhaps this is rather revealing in that lower levels of competitiveness could be associated with low motivation. The teachers may have shown unconsciously a belief that E.M.R. children do not possess this trait to any great degree. In other words they may have perceived what they wanted to perceive. The children themselves expressed the presence of Competition as high as 79.3% -- somewhat higher than the 62% identified by their teachers.

Pupils rated Difficulty at 62%. Their teachers rated it at 48%, with 7% of the items undecided. Ratings on individuals showed 31%. Teachers saw the work and requirements of the class as considerably less difficult than did the children, and on an individual basis, teachers rated the pupils exactly one-half of what pupils themselves rated Difficulty --31%-60%.

The implication may be that teachers believe they "make their classes work," that they "have high standards," and that nothing but the best will be accepted. At the same time the teachers perceive that they are providing individualized tasks of graded difficulty making it possible for each child to succeed at his own level -- a convincing argument which would justify the claim that individuals should not find the demands placed on them are too difficult. In other words teachers may think "I make it easy for the children," but my class has to work hard." Possibly therein lies the difference shown by the data for the Difficulty dimension.

The teachers perceived the presence of Intimacy within the group as 70%, and for individuals as 68%, showing a very close agreement. Pupils' MCI responses indicated a level of 86.6% Intimacy. It would appear that pupils felt there were more friendship ties and mutual good will among the class members than their teachers rated for them. Teachers' ratings of the degree of Intimacy, as with Satisfaction, are probably more realistic estimates of these two dimensions of classroom climate.

It was the investigator's opinion that the children tended to respond favourably because "that's the right answer." The distinct impression gained from both administering the MCI and taping the responses to the structured interview questionnaire, was that the children gave "approval-seeking" answers, as opposed to "faking good." One should not dismiss, either, the probability that these slower youngsters would tend to have a simplistic view of environmental events pertaining to Intimacy and Satisfaction.

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In conclusion, teachers saw less Satisfaction, Competition, Difficulty, and Intimacy than their classes did. There was identical agreement about the perceived amount of Friction. An outstanding difference was noted in Friction which existed when the teachers considered the class and then the individuals separately. The same was true for the Difficulty dimension, but to a much lesser extent.

## CHAPTER 7

## THREE CASE STUDIES

In the process of reporting results and discussing findings, frequent mention has been made of the differences which existed among teachers, and their classrooms as perceived by the children. Three of the teachers in the major study have been selected for closer examination.

Several variables thought to be of interest in describing and relating individual teacher behaviors and influence were considered in selecting teachers for three case studies. These variables included age, years of training, qualifications, experience in regular and special education classes, MTAI score, rank ordering on IDER matrix ratios, and teacher rating (perceptions) of the class. Variables related to classroom climate include MCI results, audio-taped responses to the individual pupil questionnaire, and abstracts from the teaching log maintained by the investigator during the data collection stage.

The specific data would be important in highlighting the contrasts among the three teachers in the individual cases studied, but these are not reported here in an attempt to honour anonymity and confidentiality.

Case Study One

Teacher A. was responsible for a junior class. The class was self-contained, with a number of the youngsters integrated for selected experiences in regular classes on a limited basis. It was difficult to determine the degree of success of this venture because the investigator did not have the opportunity to discuss the effects with any of the regular class teachers, or the school principal. Judging from the class periods observed and the instructional program being used, it appeared that the major activities and complete curriculum for the children were planned by the O.C. teacher, and that she assumed the apparent role of sole organizer and director of curriculum content. The net result of such a token integration could hardly be claimed as a significant factor in influencing teacher behavior, unless one concluded that the teacher's concern for "looking good" with colleagues, or of having "good children," influenced how she behaved in relation to the class in her attempts to create favourable perceptions.

Responses to the Teacher Questionnaire (Appendix 3) revealed the teacher's belief that instruction in the special class should be as similar as possible to that used in the regular class, recognizing that progress will necessarily be slower, requiring more repetition and frequent review. Goals for the special class were not seen as being different from those of the elementary school, generally.

Teacher A identified her own goals for the children as follows: to inspire my students (1) to live in harmony with God, themselves and others, (2) to realize and accept their limitations, (3) to capitalize on their strengths and freedom, (4) to acquire sufficient knowledge to be worthy of their job and to earn an honourable living.

This teacher claims that the former view that these children are useless, hopeless burdens is changing, and that regular class teachers are investigating methods, attitudes, materials, etc., used in special classes, in their efforts to help regular class pupils with difficulties. At the same time she registers the complaint that teachers like herself are unable to diagnose each child and "apply" (sic) the proper remediation. The statement that "... it's the remediation that will cure," suggests a lack of understanding of the characteristics of the retarded child. An interesting observation is embodied in the remark that it would be more effective if we (special class teachers) became the psychologists and learned in what way individuals with different deficiencies learned best. A note of self-doubt about her effectiveness is revealed in the disclosure that "I haven't assessed my successes for I haven't been sure they existed." Perhaps it's a matter of modesty. On many occasions the investigator found the teacher to be apologetic and self-depreciating. One can only speculate at the possible hidden meaning that lies in the opinion of Teacher A that what is needed most is to create a curriculum (for the E.M.R.) which relieves the stress that knowledge at the university level is the only valid kind, and that the development of a feeling of self-worth and importance should take priority.

Inspection of the IDER matrix for Teacher A has indicated that while slightly more questions (Category 4) than the average were asked in class, there was an exceedingly high incidence of lecturing -- almost double the average amount for all teachers in the major study. Compared with that which was in the lecturing category, Teacher A showed approximately twice as many coded events in Categories 5 and 15.

Teacher A engaged in extended lecture. A relatively high percentage of all tallies in the steady state cells fell in Category 5. By comparison the extremely low frequency of events in Category 15 reveals that the teacher was responsive to pupil cues of inattention or restlessness, in that she did not persist in "talking" when the children were unwilling to listen.

Direct teacher influence accounted for practically one-half of the total coded events of this teacher's behavior. Of this amount, approximately 10% was restricting in nature.

Pupil response and initiation for Teacher A were both below the average of the summary matrix, as was silence (Category 10) -- which is mostly associated with pupils working at assignments. The amount of confusion (Category 20) was found to be among the lowest in the major study. It will be seen that there was little confusion in Teacher C's class, but for a completely different reason. Teacher A maintained tight control with strict discipline.

Information of the "high inference variables" nature, based on individual pupil interviews, indicated frequent use of painful punishment, and the children's fear and resentment of the teacher. "Low inference variables" indicated few coded events of praise and encouragement, of which more than two thirds were incongruent (contradiction occurred between verbal and nonverbal cues) and, therefore, restricting in their effect.

Teacher A was among those who used the most criticism or justification of authority. A good number of the events coded were rated as being hostile, harsh, or severe. Subjective observations and notes from the investigator's log confirm the dominating, aggressive style of this teacher. Yet there were occasions of warmth.

IDER Matrix Ratios discussed in Chapter 5 provided a description of classroom climate based on thirteen ratios. The rank order of the ten teachers in the major study, for all ratios computed, is shown in Appendix 18. In understanding the behavior and influence of individual teachers, discussion of the separate IDER Ratios for each teacher in the Case Studies might be more tedious than telling. Four additional items to those discussed in Chapter 5 have been included: Teacher Talk-Encouraging/ Teacher Talk-Restricting (Ratio 8); Area A-Encouraging/ Area A-Restricting; Area B-Encouraging/Area B-Restricting; Area C-Encouraging/Area C-Restricting (Ratios 21 to 23, respectively -- see Figure 6).

Ratio 8 (TT-Enc/TT-Restr) is an index of the extent to which the teacher's total verbal behavior (Categories 1 to 7) is encouraging (positive affectivity) as compared with verbal behavior for the same categories accompanied by non-verbal restricting cues (negative affectivity). Ratio 8 is calculated by dividing the column totals for Categories 1 to 7 by the column totals for Categories 12 to 17. It will be remembered that Category 1 has no counterpart; accepting pupil feeling is either present or it isn't.

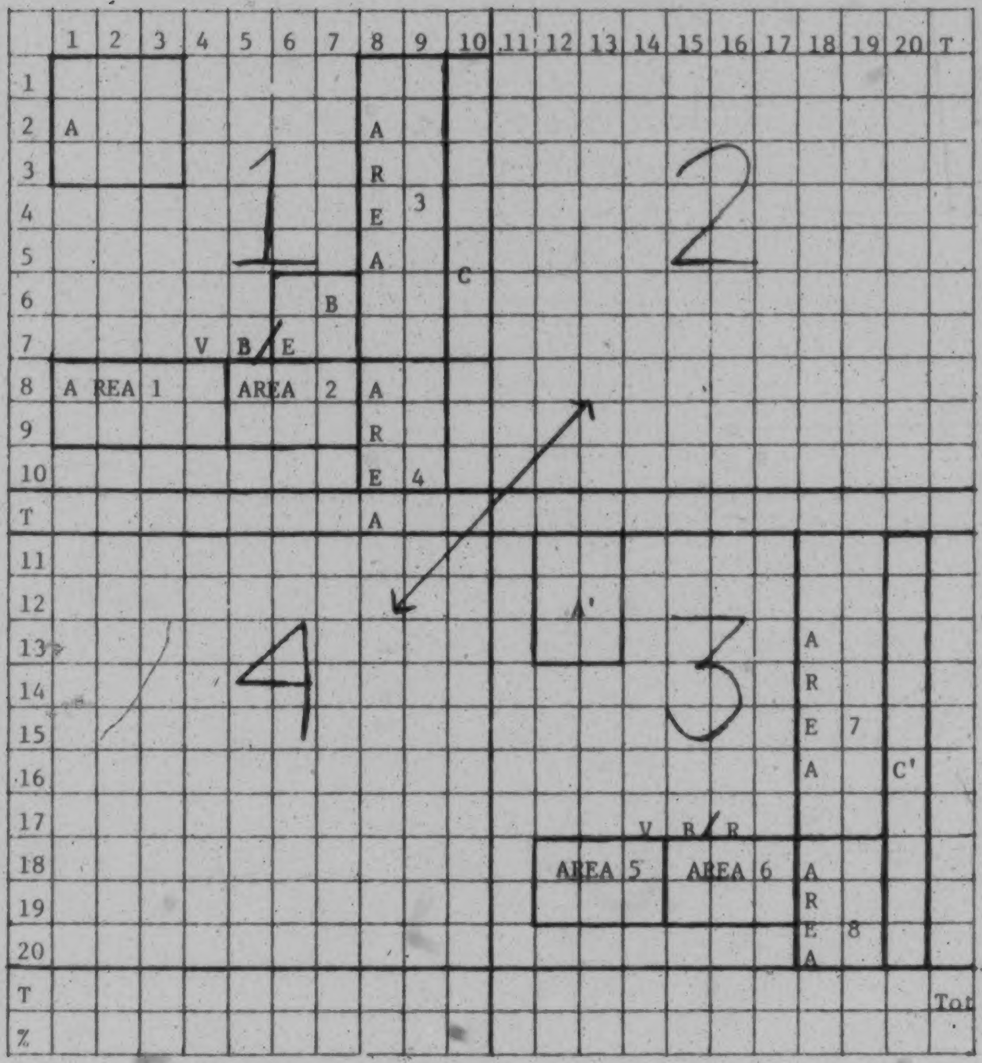
Teacher A was among the top third in the major study with respect to this ratio. This may seem surprising in view of the related factors discussed earlier. It should be pointed out that Ratio 8 makes no distinction between indirect influence and direct influence. Therefore, a significant build-up of tallies in one or more of the categories (e.g., Category 5 and/ or Category 7) would not be reflected, except to inflate, perhaps, the "encouraging" aspect of the ratio, especially in the presence of fewer restricting teacher behaviors. In the case of Teacher A the higher rank order can be attributed to the unduly large number of events in the "talking" category which serve to offset the higher than average Category 17 (harsh) events.

Ratios 21, 22 and 23 compare certain areas of the interaction matrix. They are represented in Figure 6 as Area A,A'; B,B'; and C,C' respectively.

Ratio 21 (A Enc/A Res) indicates the relationship between extended indirect influence, encouraging, and extended indirect influence, restricting. It is calculated by dividing the sums of tallies in each of the cells of Rows 1 to 3, Cols. 1 to 3 by those in Rows 11 to 13, Cols. 12 and 13. In contrast to the results for Ratio 8, the value for Ratio 21 was dramatically lower than that for the summary matrix. The lower position of Teacher A on this ratio can be explained by noting that of the events coded in the categories concerned, more than half were accompanied by nonverbal restricting cues.

Figure 6

Indirect-Direct, Encouraging-Restricting (IDER) Interaction Matrix, Selected Areas


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 T
1 2 3 4 5 6 7 8 9 10 T 11 12 13 14 15 16 17 18 19 20 T Z
A
AREA 3
1
2
C
B
V B/E
A REA 1
AREA 2
AREA 4
A'
3
4
AREA 7
C'
V B/R
AREA 5
AREA 6
AREA 8
Tot

A - Extended Indirect Influence Enc.
B - Extended Direct Influence Enc.
C - Silence
C' - Confusion
Areas 1, 2 - Teacher Response to P comments } Encouraging
Areas 3, 4 - P. talk following T. talk
Areas 7, 8 - P. talk following T. talk (Restricting)

A' - Indirect Influence Restr.
B' - Direct Influence Restr.
Areas 5,6 - Teacher Response to R comments (Restricting)

Ratio 22 (B Enc/B Res) indicates the relationship between extended direct influence, encouraging, and extended direct influence, restricting, in the realm of giving directions and the use of authority. It is calculated by dividing the sums of tallies in each of the cells of Rows 6 and 7, Cols. 6 and 7 by those in Rows 16 and 17, Cols. 16 and 17. The ratio value for Teacher A was slightly below the average for the major study. Teacher B, with a significant lower MTAI score ranked higher on this ratio. However, when the column totals for these categories for Teachers A and B are considered a slightly different effect can be seen -- indicating Teacher B's increased use of giving orders and criticizing or justifying authority. It is only that Teacher A used these behaviors on a more extended, or uninterrupted manner (e.g., a prolonged "harangue" as opposed to a crisp clarification of expectations for the situation).

Ratio 23 (C Enc/C Res) indicates the relationship between the amount of silence and confusion which exists -- the contrast between the comfort level and the distress level, or of quiet work accomplished versus tension, disorientation, disorder, and noise. Ratio 23 is found by dividing Column 10 total by that of Column 20. Teacher A fared well with respect to the amount of silence about six times the average.

Two questions remain. What were the children's perceptions about what was happening to them; i.e., how did they view the classroom climate? What was the teacher's perception of her class, and of the individual children within it? Table 7-1 displays the teacher's perceptions of individual class members and the class as a whole on the five dimensions of the MCI, and these are compared with the pupils' MCI results.

It becomes clear from Table 7-1 that there was less Satisfaction, more Friction, more Competition, less Difficulty, and less Intimacy than for the study as a whole. It is very evident that the children have responded to the direct, and restricting, influence of this teacher. Only on the dimension of Difficulty did Teacher A have more favourable results. The investigator's log shows that this teacher was well prepared. The work was carefully sequenced. There was a good deal of individualized instruction, with immediate feedback of pupils' performance. An MCI result of 59.3% for the class as compared with 62.6% for the major study supports this finding.

Data in Table 7-1 illustrate the remarkable discrepancies which exist between the teacher's rating of the individuals in the class and the group as a whole. A dramatic difference can be noted for the Friction dimension -- as much as 70% between ratings for the individual and for his class. Further to this apparent contradiction is the teacher's perception of no Friction

TABLE 7-1

TEACHER's PERCEPTIONS OF INDIVIDUAL CLASS MEMBERS AND THE CLASS AS A WHOLE FOR T-A ON FIVE DIMENSIONS OF THE MCI, COMPARED WITH PUPILS' MCI RESULTS FOR BOTH CASE STUDY AND MAJOR STUDY

| Item | Satisfaction | | | Friction | | | Competition | | | Difficulty | | | Intimacy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Yes | Un | No | Yes | Un | No | Yes | Un | No | Yes | Un | No | Yes | Un | No |
| Individual | 71% | 22% | 7% | 7% | 4% | 89% | 23% | 1% | 76% | 38% | 3% | 59% | 77% | 7% | 16% |
| Main Study | 70 | 12 | 18 | 5 | 2 | 93 | 26 | 6 | 68 | 31 | 1 | 68 | 68 | 4 | 28 |
| Whole Group | 40 | 60 | 0 | 80 | 20 | 0 | 40 | 0 | 60 | 50 | 0 | 50 | 75 | 0 | 25 |
| Main Study | 76 | 14 | 10 | 64 | 2 | 34 | 62 | 0 | 38 | 48 | 7 | 45 | 70 | 2 | 28 |
| MCI Case Study | N=15 | 79.6% | | | 71.6% | | | 79.3% | | | 59.3% | | | 80.9% | |
| MCI Major Study | N=111 | 88.7% | | | 64.6% | | | 72.3% | | | 62.6% | | | 86.6% | |

on behalf of 89% of the individual class members, yet a level of Friction amounting to 80% for the class as a group. This amount is 16% higher than the mean of 64% for the major study.

The wide variations which existed in this Case were not unique to Teacher A. They were typical of the entire investigation, particularly on the dimensions of Satisfaction, Friction, and Competition. The teachers showed less obvious differences between their perceptions of individuals and their class on the dimensions of Difficulty and Intimacy. Very close agreement could be noted between the sample means for both individuals and the class on Intimacy. This was less apparent on the Difficulty dimension. On the whole, for unknown reasons teachers were not very accurate, or consistent, in their judgements about individual children as compared with the group to which the children belonged.

In summary then, Case Study A showed a class with the oldest teacher (of the three described with case studies) with slightly above average MTAI (which is contrary to expectations), with considerable special class experience, whose influence was largely Direct, and Restricting (seemingly a denial of a higher MTAI score). Pupils received little encouragement, sparse praise or recognition. It was a reasonably hard working class, with a heavy emphasis on content and less concern for process. There was little opportunity for Pupil Initiation, or Pupil Talk. The teacher dominated the interaction with excessive lecturing -- in some respects, a dominating "talking model."

The children reflected their distaste for the classroom climate in their expressed fears of punishment and resentment of the teacher's behavior. Some felt the need to escape; others carried on their quiet revolution of resistance and rejection of the teacher. This is rather forcibly illustrated in Table 7-1, with the poorer MCI results for this class.

The teacher recognized the low level of Satisfaction and high level of Friction in her class, but did not associate it (or denied its existence) with individual children. In all fairness, the teacher thought that she was doing what was right; what was expected of her -- to "cure" the kids by "applying" the right remediation and spurs to action. For this, one has to respect her -- however Direct her behavior, and Restricting her influence.

### Case Study Two

Teacher B has been selected in order to discern the effects of having a very low MTAI of being midway in age between the two other teachers in the Case Studies. The teaching assignment involved E.M.R. boys and girls between the ages of 7 and 10 (average age 8.2 years). One of the pupils was a new member who transferred into the class during the research period.

Much of the instruction was centered around the blackboard and flannelgraph. There was noticeably less reliance on texts and work books. The investigator's observation periods included the basic subjects, music, arts and crafts, and gym. All were structured, with individual and small group instruction -- excepting music, art, and gym, but largely teacher-centered and dominated. This would tend to explain the more than average incidence of giving directions and using criticism; and the low frequency of capitalizing on student ideas, as well as a minimum of pupil initiation.

The teacher would probably be surprised to learn that her influence was of such a Restricting nature. Responses to the Teacher Questionnaire indicated a belief in using "a multitude of techniques to inspire the child to learn," and that the nature of the job "makes the teacher special." In spite of not having had any special courses ("just common sense and imagination"), Teacher B saw herself as "a good teacher," forever challenged in the special class. She reported the need for much patience, having to teach and reteach. She perceived the children as just like other children, and, therefore, should be treated as such -- not unlike Teacher

A in this respect. She stated that each child has his own program of studies, with each child being seen "as a grade by itself."

With more emphasis on creative work, and getting pupils to achieve an education of Grade 4 level so they can enter a special school, and take up a trade, the teacher didn't believe in "pampering, and letting the children think the world will give them special privileges." "They have to learn the rules -- otherwise punishment of some kind follows."

Teacher B complained that time was against her, and that she had too many children -- the ideal class being 6, or 7 at most; that she would have liked a helper, parent involvement, and speech training for her pupils, as well as more supplies and basic equipment like a record player, and listening center for permanent use in the classroom.

There were 2.78 hours of direct coded observation in this classroom. Elapsed coding time amounted to approximately 3.5 hours over a 5 week period.

Of those events judged to have been Encouraging nearly 25% involved lecturing, giving orders or directions and clarifying directions or criticizing. A higher than average frequency of pupils' responding was noted, with very few events of pupils' inquiry or initiation. Events judged to have been Restricting amounted to nearly one-fifth of the interaction.

Teacher B made few praise statements, with the overwhelming majority of those recorded, being classified as incongruent.

Relatively speaking the teacher did little lecturing, but more than her share of giving orders, and practically double the amount of criticizing as found in the Summary Matrix. It might be expected on this basis to find a high proportion of Direct Influence or Restricting effect. Nearly one-third of the teacher's behavior was Direct, of which 20% was Restricting. Teacher B was slightly below the average in respect to Direct Influence and Restricting effect.

Comparison of column totals for all matrices 1 to 10 (Table 5-2) shows Teacher B in first position in the frequency of Category 7 events (criticism), Category 12 (incongruent praise), and Category 13 (perfunctory use of student ideas). In the Student Talk area she placed first in the amount of pupil response, but last in the amount of pupil initiation.

Slightly more than one third of the tallies of extended or sustained events fell in Category 8, thus supporting the recitation-drill pattern of teaching noted by the investigator. This is further supported by the results for the TQR (Ratio 18) which had a mean of 0.358; and a mean TQR 89 (Ratio 19) of 0.391. Normative expectations for the two ratios are 0.260 and 0.440 (Flanders, 1970, pp. 103 & 105). These ratios reveal the teacher's excessive tendency to use questions when guiding the more content oriented part of the class discussion, and to respond immediately to pupil talk with questions based on her own ideas (the teacher's) contrasted with the tendency to lecture. Considerable emphasis on factual content and recall was evident. This was consistent with the teacher's perception of her job (i.e. to teach facts) as revealed in the Teacher Questionnaire.

Insofar as uninterrupted students' engagement in assigned work, Teacher B's class ranked high in the major study; about one-quarter of the events falling within the steady state cells of the Matrix were classified in Category 10. However, when comparing the total of Category 10 tallies with all other matrices (Table 5-2), the class ranked much lower. In other words the class was above the median in its sustained silence but there were more intervals of other interaction events, which intervened thus reducing the overall amount of time coded as Silence.

Ratio 8 (TT Enc/TT Res) reveals the proportion of teacher behavior that was Encouraging as opposed to that which was Restricting. Teacher B's obtained ratio value was lower than that for the Summary Matrix. In spite of the teacher's talking behavior being more than two and one-half times as Encouraging as it was Restricting, Teacher B ranked very low on Ratio 8; whereas Teacher A who was very Direct, fell distinctly higher on Ratio 8 (TT Enc/TT Res). The point here is that the teacher in Case Study One whose behavior was most Direct was also among the top three who were most Encouraging. By contrast, therefore, based on Ratio 8 results, Teacher B would have to be viewed as the "bossy one" in the investigation.

Examination of Ratios 10, 11 and 12 (TRR) and of Ratio 20 (TRR 89) gives further insight into the nature of the teacher's response behavior to her pupils. The TRR and TRR 89 are associated with how the teacher reacted to pupil response -- whether she incorporated students' ideas and feelings into the class discussion or whether she tended to reject their efforts of self-expression, and to give orders, to find fault with their answers, or to criticize their behavior.

Considering the more than average use of Categories 6 and 7, 16 and 17, it is curious to discover that Direct and Restricting influences associated with situational settings of this nature were not negatively reflected in the MCI results for the class, and individual pupil interviews, as will be seen below.

The teacher's and pupils' perceptions are displayed in Table 7-2. Nine children responded to the MCI. Their perceptions of the classroom climate, on the whole, were more favourable than those of the major study, with higher Satisfaction, less Friction, and greater Intimacy, identical level of Difficulty, and slightly more Competition.

It seems strange that this should be the situation in view of the extent of Teacher B's Restricting influence, and the fact that nine of the seventeen ratios associated with the teacher-pupil interaction for this teacher ranked among the bottom half of the entire ten teachers in the major study. Evidently uncontrolled variables like age and characteristics of the children, class size, and curriculum have a greater bearing on MCI results than might have been expected. Or, alternatively, the confidence of the MCI results may be questionable.

Questioning of the nine children raised some doubts in the investigator's mind about the reliability of the answers of two or three of the youngsters -- particularly the two seven year-olds and one eight year-old. One of the former had a pronounced speech defect which made communication difficult, the other exhibited decidedly limited language usage and comprehension of the pupil questionnaire. One girl expressed a distinct

## TABLE 7-2

### TEACHER'S PERCEPTIONS OF INDIVIDUAL CLASS MEMBERS AND THE CLASS AS A WHOLE FOR T-B ON FIVE DIMENSIONS OF THE MCI, COMPARED WITH PUPILS' MCI RESULTS FOR BOTH CASE STUDY AND MAJOR STUDY

| Item | Satisfaction | | | Friction | | | Competition | | | Difficulty | | | Intimacy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Yes | Un | No | Yes | Un | No | Yes | Un | No | Yes | Un | No | Yes | Un | No |
| Individual | 76% | 20% | 4% | 4% | 0% | 96% | 20% | 0% | 80% | 26% | 2% | 72% | 72% | 2% | 26% |
| Main Study | 70 | 12 | 18 | 5 | 2 | 93 | 26 | 6 | 68 | 31 | 1 | 68 | 68 | 4 | 28 |
| Whole Group | 100 | 0 | 0 | 40 | 0 | 60 | 60 | 0 | 40 | 25 | 0 | 75 | 100 | 0 | 0 |
| Main Study | 76 | 14 | 10 | 64 | 2 | 34 | 62 | 0 | 38 | 48 | 7 | 45 | 70 | 2 | 28 |
| MCI Case Study | N=9 | 92.2% | | | 61.6% | | | 82.6% | | | 62.6% | | | 88.9% | |
| MCI Major Study | N=111 | 88.7 | | | 64.6 | | | 79.3 | | | 62.6 | | | 86.6 | |

dislike for the teacher, repeatedly describing her as "rude." Upon further questioning she said the word meant mad, or cranky. Indeed, many of the Category 6, 16, 7 and 17 events could be accounted for by the extensive amount which was directed at this child -- for whom the teacher also betrayed an open hostility and rejection. The teacher nagged and spoke sharply to her much of the time. Yet another child expressed concern about spankings, or of being punished. Apart from such references to seemingly more isolated experiences, the children frequently indicated positive feelings for the class and for their teacher, with a reasonably happy outlook -- in contrast to the negativism and fear found among the older, Case Study One youngsters.

The teacher's ratings in Table 7-2 showed rather interesting differences between individuals and the class itself, as well as certain contrasts between results for her own class and the main study. Reasonably close agreement can be seen in Table 7-2 between Teacher B's rating of the children individually and other teachers' ratings on the same dimensions for their children. Except for being slightly more undecided than the main study about the Satisfaction dimension, no major differences existed.

Turning our attention to ratings of the whole group (as opposed to individuals comprising the group) Teacher B viewed the class as 100% satisfied, and having 100% Intimacy, considerably lower Friction and Difficulty than other classes in the investigation, and about the same degree of Competition. There were the wide discrepancies characteristic of all the teachers in perceptions of individual pupils, and the group as a whole.

The five dimensions of Satisfaction, Friction, Competition, Difficulty, and Intimacy showed differences of 24%, 36%, 40%, 1%, and 28% respectively between individuals and the group.

Results in Table 7-2 show Teacher B perceived her class (based on both individual members and the whole group) as "better" on all five dimensions of classroom climate than for the major study -- which would serve to corroborate her self-perception as a "good" teacher, and therefore be consistent with the perception of having a "better" class.

In conclusion, then, Case 2 involved a teacher who based her instruction on intuition (in her own words, "just common sense"). The multitude of techniques and variety of approaches which the teacher claimed were needed in the teaching of the E.M.R. children were not apparent to this investigator. The major pattern of instruction involved a drill-recitation approach with little opportunity for student self-expression apart from seat work employing arts and crafts activities which were mainly prescribed and common to the class as a whole.

Minimum use of teacher praise, a tendency to perfunctory questioning, considerably less lecturing than the average, combined with practically double the amount of criticism and justification of authority (both Encouraging and Restricting) as that employed by other teachers in the sample, characterized the interaction. Slightly more than half of the events coded in the encouragement categories were of a Restricting nature. The I/D ratio indicated that the teacher's behavior was twice as Direct as Indirect.

In spite of the presence of a bossy, faultfinding model in the person of the teacher, her pupils rated the classroom climate more favourably than one might have predicted for a teacher with a very low MTAI score, and general absence of personal warmth and acceptance of pupil feeling.

## Case Study Three

The least experienced of the ten teachers in the investigation is the subject of the third case study. Teacher C claims only one special education course: The Psychology and Education of the Physically Handicapped.

She scored among the highest on the MTAI.

Responses on the Teacher Questionnaire were among the most interesting and provocative in the study. A major motivation for choosing to teach an opportunity class was a preference for small groups ("the smaller the better"), a liking for retarded children, and a negative attitude to special class teachers' sentimental notions about "those poor dears who need much love and an arts and crafts curriculum," accompanied by those teachers' low expectations for the E.M.R.

A basic concern for the learning needs of E.M.R. children, both academic and social, prompted this teacher to undertake a demanding assignment which she believed would be more rewarding, and would give her a better opportunity to know her children (owing to smaller class enrolments). She was assigned a primary O.C. of ten children. They were 8.0 - 9.5 years old, who had been extremely difficult to manage during their first term with the teacher. They were out of control, and a source of great anxiety and upset for the "new" teacher. At one point she felt ready to resign in despair.

Early in the following term, after a specific training program in behavior management directed by three graduate students and based on Homme's Contingency contracting in the classroom, the classroom was reorganized and a number of intervention procedures were introduced. The new program had been in effect for four months prior to the class's participation in the present investigation.

Dramatic improvement followed the introduction of the contingency management procedures, systematic praise and control of preceding and consequent stimuli.[1] These changes undoubtedly influenced the significantly different results reflected in the coded interaction and classroom climate.

The teacher confessed that she did not know what the school board goals were for these children, but her own goal was to reintegrate as many of the children as possible back into the regular stream, and to help the children develop positive feelings about themselves. She was convinced that "a great deal can be realistically expected of these children," confiding that she often felt she should have expected more than she did. The teacher identified three problems: her own lack of experience; lack of sequenced materials; and disinterest or lack of understanding on the part of parents, extending to apathy and neglect on their part. She saw her greatest satisfaction in getting two children back in the regular stream; the disappearance of behavior problems and obvious growth of positive self-concepts in the children; and of having the best behaved class in the school and knowing that no other teacher could refer to "my class as the animals!"

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[1] For further description of this research, the reader is referred to the journal Teachers of Atypical Students in Alberta. Vol. 1, No. 1. December 1971, pp. 39-45.

The teachers were asked how they felt that these children could be better served by the school system. Teacher C replied that many should be kept in the regular stream with consultative back-up services; closer supervision "in the educative sense" of special class teachers; perhaps keeping one's own position "should be contingent upon children's gains." The type of gains were not specified, but suggest a merit rating, or employment by results, for teachers.

Notes from the investigator's log of the learning environment include such comments as: "comfortable silence of quiet absorption with individualized tasks," "much independent pupil effort," "cheerful atmosphere," "Children helping children," "no discipline control interruptions -- busy and businesslike," "teacher's presence often barely noticeable, circulating unobtrusively among the children for frequent 'teaching at the elbow' and dealing with difficulties or errors," "noticeable use of praise and receptiveness to the children's approach responses," "sensitive to pupils' avoidance reactions with adjustment of assigned tasks and contracts."

The teaching style associated with the preceding remarks was consistent with the Case Study Three which show definitely superior results, often significantly so, for all categories of the teacher-pupil interaction. Particular note was made of the percentage of matrix events falling in Categories 2, 5, 7, 9, 10, 16, 17, and 20 as compared with Teachers A and B and the Summary Matrix.

There was considerably more praise than the average of which ½ was incongruent, or of a Restricting influence. Lecturing accounted for only ½ of that compared with the entire sample. More than the average amount of directions were given but there was decidedly less criticism or use of authority. It is noteworthy that only a negligible amount of the authority-criticism categories (7 and 17) were coded as severe, or hostile in its effect. Pupil initiation, Encouraging, was well above that of both Cases 1 and 2. Category 19 was above the Summary Matrix average, and certainly treble that of the other two case studies. The explanation for the difference lies in the behavior management techniques which ignore inappropriate pupil talk. In other words, the teacher is consciously Restricting in her influence as a part of the "extinction" process for unwanted behavior.

The aim of the intervention procedures outlined in contingency contracting is to increase the amount of time engaged in "on-task" pupil behavior. The success in Case 3 can be judged by the amount of classroom interaction which fell in Category 10. This amount was substantially above the average for the ten teachers in the major study. Teacher C -anked first in the percentage of continuous on-task behavior with more than half of the steady state cells involving Category 10 tallies. Teacher C ranked low in the amount of uninterrupted or continuous lecturing as contrasted with Teacher A's result for the same events which was over seven times as great.

Whereas the calculations of the various ratios that have been considered involve use of the same data upon which the preceding discussion was based, it would not be surprising to find similarly more favourable results for Case 3. Such was the situation, with Teacher C obtaining first position for several of the seventeen ratios listed. Two other ratios fell above the median, three at the median and one in seventh position.

Ratio 4 (TT/Pt Total) is indicative of the proportion of teacher talk compared with pupil talk. The obtained value was noticeably below that of the Summary Matrix (2.167), and significantly less than that of Teacher A. The reader will remember this was the case study which had the "talker model" teacher. Only a slight difference existed between Teacher B (the "bossy model") and the present teacher -- who might be viewed as the "responsive model."

This is verified by examining Ratios 8, 10, 21 and 22, which were dramatically in excess of values obtained by either of the teachers in the two other case studies, and for the investigation as a whole (Summary Matrix). These are the Ratios chiefly concerned with the categories involving acceptance of pupil feeling, use of praise and recognition or extension of student ideas, as well as teacher behaviors involving direction-giving and criticism.

Lest the reader be led to the conclusion that Teacher C was the very model of Indirect, Encouraging influence, and that all was "sweetness and light" as a consequence, attention should be drawn to the fact that there were Ratios which appeared contradictory -- or at least raised perplexing questions. To be sure, there were Restricting elements in the Matrix for Teacher C. Ratios 2, 6, and 11 were evidence of this. Occasionally pupils were sent to a "time out" area. This is a cubicle for isolating pupils whose behavior violated class rules. The teacher was not free of overlooking certain children. There were two in particular: a distractable and disruptive boy, and a low status "poverty" girl. Total influence, however, appears to have been more Encouraging and Indirect than other teachers who have been considered in greater detail, and of those of the study generally.

Nevertheless, how can a teacher rank high on I/D Encouraging and at the same time also rank high on I/D Restricting? Or again, encourage twice as much PIT as the average, yet be one and one-half times as restricting of PIT as the average? The same problem surrounds Ratio 11 (TRR Restr). Teacher C ranked among the top in her response ratio to pupils, Encouraging (TRR Enc), while simultaneously ranking among the top in her response ratio, Restricting approaching double the value for the Summary Matrix. How much of one set of influence (series of behaviors) counteracts, or counterbalances the other? Part of the enigma lies in the mathematics, that is, in the relative number of tallies comprising the various numerators and denominators in calculating the ratios.

To illustrate for Ratios 1 and 2, if there were 500 tallies in Categories 1 to 4 and 600 tallies in Categories 5 to 7, a ratio of 0.900 would result. If there were 100 tallies in Categories 12 to 14 and 50 tallies in Categories 15 to 17, a ratio of 2.000 would result.

Thus the results may be somewhat misleading, considering the number of tallies in the entire matrix.

Categories 15 to 17 (Direct-Restricting) comprised only a small amount of the total in the matrix. Therefore, the Restricting influence could only be concluded as minimal. Contrasted with these results is the close correspondence between Indirect-Encouraging events and those coded as Direct-Encouraging. Similar circumstances could be shown for the other Ratios in question -- thus illustrating there is less contradiction than would appear at first inspection.

The final judgement of the teacher's influence and the classroom climate it serves to create, rests on the pupils' perceptions of their teacher's behavior. MCI results are used for this purpose. They are shown in Table 7-3.

The teacher's ratings which are also included, show only slight variations between her own view of individuals in the class in the various dimensions of the MCI, and mean ratings of the ten teachers in the investigation. The only noticeable differences existed on the two dimensions of Friction and Difficulty. Teacher 8 perceived no Friction, and less Difficulty than the average for the study. A 4% difference was noted on more Competition among individuals in Case 3.

An almost unbelievable reversal was observed when examining the teacher's ratings for individuals and the class group on the Friction dimension -- as much

## TABLE 7-3

### TEACHER'S PERCEPTIONS OF INDIVIDUAL CLASS MEMBERS AND THE CLASS AS A WHOLE FOR T-C ON FIVE DIMENSIONS OF THE MCI, COMPARED WITH PUPILS' MCI RESULTS FOR BOTH CASE STUDY AND MAJOR STUDY

| Item | | Satisfaction | | Friction | | | Competition | | | Difficulty | | | Intimacy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Yes | Un | No | Yes | Un | No | Yes | Un | No | Yes | Un | No | Yes | Un | No |
| Individual | 69% | 9 | 22% | 0% | 0% | 100% | 30% | 2% | 68% | 25% | 2% | 73% | 69% | 0% | 31% |
| Main Study | 70 | 12 | 18 | 5 | 2 | 93 | 26 | 6 | 68 | 31 | 1 | 68 | 68 | 4 | 28 |
| Class Group | 100 | 0 | 0 | 60 | 0 | 40 | 40 | 0 | 60 | 25 | 0 | 75 | 75 | 0 | 25 |
| Main Study | 76 | 14 | 10 | 64 | 2 | 34 | 62 | 0 | 38 | 48 | 7 | 45 | 70 | 2 | 28 |
| MCI Case Study | N=10 | 94.2% | | | 56.6% | | | 72.3% | | | 58.3% | | | 87.2% | |
| MCI Major Study | N=111 | 88.7 | | | 64.6 | | | 79.3 | | | 62.6 | | | 86.6 | |

60%, which is not all that different from the mean for all ten teachers' ratings. How such a difference in perception could exist for the same teacher is difficult to explain.

Teacher C perceived 31% more Satisfaction when rating the class group; 10% more Competition; and 6% more Intimacy. On none of the five dimensions was the teacher undecided when rating the class group as compared with the other teachers who showed varying degrees of indecision on four of the dimensions involving the entire study. Major differences between class group ratings and those for the major study were found, viz., 24% Satisfaction, 22% Competition, 23% Difficulty. In each instance they favoured the Case 3 teacher's class.

The pupils themselves perceived the class climate more favourably than did pupils in the main study generally. All five dimensions were superior, however slight, as on the Intimacy dimension. An interesting difference of 4.3% decrease in perceived Difficulty existed. The probability for this may lie in the type of regimen in the Case 3 class. The learning process depended considerably more on individualized tasks and independent effort. Learners were more on their own and expected to do "more thinking for themselves," possibly resulting in a greater sense of accomplishment based on the successful completion of numerous job sheets and work contracts.

Pupils had to take more responsibility for their own learning. It should be pointed out that Teacher A had a class with low perceived Difficulty, related apparently to a greater volume of pupil output, and hence a greater proportion of endeavour devoted to on-task pupil behavior.

The higher climate scores for this class in Case 3 would indicate that pupils of Teacher C had more favourable perceptions of their class than was found for any other classrooms in the sample.

In conclusion, a young, inexperienced, first year teacher managed to "lead the field" of ten teachers in practically every aspect of behavior and influence. She was least Direct, most Encouraging, lectured least, maintained the highest level of pupil silence and sustained effort, was most responsive, (yet seemed strangely absent), developed the greatest amount of pupil initiation, was least critical, most praising, and demanded a high order of pupil response behavior and work output.

Her children rated the class first on all dimensions of classroom climate. Individual interviews with the children confirmed that here was a pleasant class with positive attitudes and a "responsive manager model."

## Summary

Three teachers from the major study have been examined to make a closer study of their behavior and influence and the classroom climate it produces.

Characteristics ranging on a continuum from youngest to oldest, from lowest MTAI to highest, from most experienced in both regular and opportunity classes to least experienced, and distinctly different teaching styles, have been included. Three models have been suggested based on the findings. They are the "talking model," the "bossy model," and the "responsive manager model."

To propose a definition of a special education teacher is to ask what he must be able to do, what competencies he must possess, what teacher behaviors he must demonstrate which can be described as professional. There is more to educating children than merely inculcating specific skills. Values and feelings must be incorporated into the education process. There must be concern for the child's feelings of adequacy; precise, clearly articulate measurable objectives; and systematic interventions.

Good teaching involves formulation of appropriate goals, selection and organization of content consistent with the psychological demands of the learner. The good teacher employs appropriate strategies for the attainment of desired behavioral objectives. Instructiojal outcomes are evaluated in terms of these objectives. Good teaching is data-based and responsive to directions implied by these data.

Therefore, in terms of what may be viewed as the Special Education Teacher, it would have to be concluded that this investigation did not in fact have a sample of Special Education Teachers, thus making it difficult to differentiate the individuals in this study from the stereotype we call "teacher."

# CHAPTER 8

# SUMMARY, CONCLUSIONS, AND IMPLICATIONS

This study has investigated the classroom behavior of ten opportunity class teachers. They were chosen from a pool of volunteers and selected on the basis of a stratified random sample by replacement technique. Such a procedure made it possible to examine teacher-pupil interaction, and the social-emotional climate created, in relation to certain teacher characteristics. These characteristics included teachers' attitudes, perceptions, age, training, experience, and qualifications.

The investigation has been concerned with the behavior of the teacher, the behavior of those who were taught, and the possible relationship between the two. It has been assumed that the way the teacher responds to pupils determines in large measure the affective climate of the classroom. The affective domain assesses how the teacher reinforces the pupil. The effect of this reinforcement establishes a set of feelings or perceptions which determine future behavior. What is reinforced is learned; what is perceived is believed.

The level of perceptions, or the feeling (affect) level, may well be the major source of influence in the retarded's performance. On this premise, it has been proposed that retardation is the result of an exchange between the child and his environment. The style of a given teacher may be one of the factors influencing the environmental press perceived by pupils. Classroom climates may be seen as either supportive or defensive, comfortable or distressing -- limiting the ability to receive input or respond adequately.

This investigation employed an interaction observational category system intended to quantify the qualitative aspects of teachers' classroom verbal and nonverbal behavior. Teachers' verbal and nonverbal communication patterns in the special class were analyzed with a view to discovering the effects or influence on the classroom climate. Pupils' perceptions of the climate created were also investigated.

A pilot study was conducted in two classes prior to the launching of the major study. A complete account of the research design, methods, and procedures is presented in Chapter 3, along with the impact of the pilot study.

Over 30,700 teacher-pupil events in the classroom were recorded by using the combined Flanders-Galloway Interaction Analysis Categories System. The encoding of the data involved making one of twenty possible judgements every three seconds. These are considered low inference variables, requiring a minimum of observer interpretation. Inter-rater reliability checks were carried out on a random schedule throughout the two month period of data collection.

These were found to be satisfactorily high with a Pi coefficient mean value of 0.87.

A number of instruments were administered to measure teachers' perceptions of their task (Teacher Questionnaire, Appendix 3), teachers' attitude (MTAI), teachers' ratings of their pupils (as individuals and as a class group), pupils' perceptions (MCI), and a pupil questionnaire (Appendix 9) administered individually, with audio-taped responses. These are considered as high inference variables -- descriptions of the learning environment from the learners' point of view. The findings are reported and discussed in Chapters 4 and 6 respectively.

The question of whether or not different teachers' ways of working, personal characteristics, and classroom management make a difference in the social-emotional climate has been a central concern. A related concern involved probing the relationship between the teachers' statements of their professed goals and attitudes and their actual verbal and nonverbal teaching behaviors. What is special about special class teachers was the major question.

Upon completion of the data collection phase, the data were arranged to conform to computer analysis using the Fland/Gall Program designed by the Department of Educational Research Services at the University of Alberta. The program permits the construction and display of the various interaction matrices (IDER), and the computation of a series of ratios devised to describe the teacher-pupil interaction and classroom social-emotional climate. Results of this aspect of the investigation are reported and discussed in Chapter 5.

## Conclusions

The investigation was essentially one of process evaluation. This section will attempt to provide answers to the research questions raised in Chapter 2.

1.0 What attitudes do teachers in opportunity classrooms have towards children and teaching?

The answer to this question was derived from two sources of information; first, the MTAI scores, and secondly responses to the Teacher Questionnaire (Appendix 3). Results of the MTAI scores for the ten teachers in the major study showed their attitudes as neither more favourable nor less favourable than those on whom the MTAI norms were based. The mean score for five teachers (2 yr.trained) was nearly identical to the normative data, whereas the mean score for the other five teachers (4 yr. trained) was slightly above the normative data. Of the additional 160 special education teachers used in the factor analysis of the MTAI, 65 were Opportunity Class teachers (47 teaching at the secondary school level). Scores for this group (the 65) averaged 15 points below the norm, with many negative scores -- some as low as -40, with a number scoring as high as 101. Lower scores indicate traditional attitudes to child rearing, authoritarian views about child-adult relationships, and dominative or repressive approaches to child control. Higher scores are associated with permissive, laissez-faire, accepting attitudes which encourage warm, friendly relationships with children.

Information gleaned from the Teacher Questionnaire revealed altruistic motives, sympathetic concern for children with learning difficulties, emphasis on the social development of the mildly retarded, tender-minded notions about the need to protect the child from stigma and rejection, yet tough-minded notions about "learning the rules or suffering the consequences (punishment)," and the necessity for learning a certain body of facts. The mixture of expressed positive regard and ambivalent attitudes of facilitator and commander make it difficult to distinguish the Opportunity Class teacher from other teachers. It was not possible to recognize some separate entity which could be labelled "the attitudes of the teacher in the opportunity class."

1.1 Is there a significant difference between MTAI scores of special education teachers and mean scores as set forth in the normative data for the MTAI instrument?

This question has been dealt with in the section above. It should be pointed out that large variances existed, as was mentioned earlier. These large variances, typical of MTAI results, make it difficult to classify types of teachers. In this investigation no clear pattern of teacher influence in relation to attitude scores of the MTAI could be found. In fact there were contradictions which will be pointed out in a later section.

> 2.1 Is there a significant relationship between the teacher's verbal and non-verbal classroom behavior as measured by Flanders-Galloway categories systems and the MTAI scores of the O.C. teacher?

There were conflicting results and inconsistencies between the MTAI scores of the different teachers, and the results of the IDER matrices. For example, Teacher 2 with the highest MTAI score, obtained the lowest I/D ratio in the study. It might be expected that a high MTAI would be associated with a higher level of Indirectness -- whereas the opposite was found to be the case. This teacher exhibited the greatest amount of Direct influence in the total sample. Further illustration of the failure to demonstrate a relationship between MTAI scores and IDER results can be seen when the relative positions of three teachers' IDER ratios are compared with their MTAI scores. Teacher 4 obtained the lowest MTAI score, with twelve of the IDER Summary Matrix ratios falling at or above the median for the ten teachers. Teacher 1 had the second lowest MTAI score, with seventeen of the IDER Summary Matrix ratios falling at or above the median. Teacher 2, mentioned above, had the highest MTAI score, yet only eight of her IDER

Summary Matrix ratios were at or above the median for all teachers.

A detailed analysis and discussion of the findings of the interaction analysis has been set forth in Chapter 5. The results seem to support the conclusion that there is little relationship between teachers' verbal and nonverbal teaching behaviors and their MTAI scores.

Separate matrices for individual teachers and their results are shown in Appendices 19 to 28.

Examination of the Summary Matrix indicated few teacher statements in Categories 1 to 3, and over one-half of these were found to be Restricting in their effect. One-third of the events in Categories 6 and 7, and 9 and 19 were found to be Restricting. It has been found that a fair amount of the teacher-pupil interaction fell within a pattern of Restricting influence on pupils.

Teacher lecturing varied from a low of 8% to a high of 30.4%. Teacher talk accounted for 50.6% of the interaction, pupil talk for a further 25.2% of the interaction. There was confusion 3.7% of the coded instructional time.

Categories 6, 16, 7 and 17 (the giving orders and criticism categories) accounted for 16.8% of the total matrix events. Considering this figure along with the amount of confusion, 20.5% of the instructional time was taken up by the teacher either giving orders or using criticism, and of the learners resisting the teacher's influence and attempts to control the class. On the whole, one-fifth of all events coded were classified as Restricting in their influence. As a result the climate in the overall sample tended towards defensiveness. There were individual exceptions -- notably in the case of Teacher 8.

An I/D ratio of 0.478 indicated the freedom of pupils to respond was considerably limited. Teachers talked, on the average, about two and three-quarter times as much as their pupils. At the same time, pupils in the ten Opportunity Classes spent more than twice the normal amount of time expected in doing seat work, completing assignments, waiting for the teacher, or working on individual tasks.

Almost half (48.4%) of teacher behavior which was Restricting, was directed to dealing with disruptive, or inappropriate pupil behavior, as perceived by the teacher. The teachers spent 10% of their time in unresponsive lecturing; i.e., they continued to talk to the class in spite of clues of restlessness, boredom, and inattention. The net effect of what has been found from the interaction analysis is a narrow range of cognitive experiences (owing to drill patterns or rote teaching), less meaningful interpersonal relationships between pupils and teachers, and limited experience with verbalizing feeling (in fact, almost non-existent).

Pupil initiation ranged from 1 in 100 to 1 in 4 or 5. Teachers ignored or dismissed over one-half of their pupils' persistent efforts to express an opinion, ask a question, or seek the teacher's attention. This incidence may be related to the pupils' insecurity in working on a task, or failure to understand the teacher's directions or intentions.

Excluding teacher questioning and lecturing, 20% of teacher influence was Direct, with slightly over four-fifths of teachers' responses being Direct in the area of encouragement. Responsiveness ranged from 8% to 34% (i.e., listening, extending pupils' ideas). Based on nonverbal messages, the teachers were Indirectly Restricting 37%. Teachers were twice as Direct in their responses to pupils as the average found by Flanders. The major influence in the classroom interaction was for the teachers to be distinctly directive and unresponsive to their students.

3.0 How do elementary school E.M.R. children perceive the social-emotional climate in different opportunity classes?

The learners' perceptions were measured with the MCI. Five aspects of social-emotional classroom climate were examined. These are included in the MCI dimensions of Satisfaction, Friction, Competition, Difficulty, and Intimacy. The MCI instrument, both Junior and Elementary forms, was administered to the pupils individually. Certain items presented difficulty owing to the double negative involved in a possibly paired "No" response to the item. Confusion was noted in some instances. Responses of 111 children were summarized and the results are reported in Chapter 6, Table 6-14, in the form of a mean response score per item for each of the five dimensions.

Substantially high mean scores were found for the dimensions of Satisfaction, Competition, and Intimacy. Perceived Friction was expressed as existing at a reasonably high level. This fact did not appear to influence unduly the pupils' more favourable ratings of Satisfaction and Intimacy. One might explain the high level of Competition in terms of the Friction dimension results. However, only in isolated cases was it possible to identify children's overt hostility to what was happening to them in the classroom situation.

Perceived Difficulty was rated lower among Juniors than among Elementary E.M.R.'s. Older children evidently were more conscious of "stupidity" and the prospect of failure with tasks viewed as "too hard for them."

Some would argue that duller learners' perceptions are not reliable -- that they are not capable of making the sort of judgements the MCI requires. It was found that the learners did in fact experience some difficulty in reflecting on the classroom climate. Yet on closer questioning, it appeared that the problem lay in being less able to articulate feelings owing to inexperience in dealing with affective elements in such a task; i.e., learners had never been faced with thinking about such matters before.

Yet, a close correspondence could be noted between rank orderings of the IDER ratios and climate scores of the MCI. This would lend support to the conclusion that the MCI is sensitive enough to reveal differences in teacher influence, and that E.M.R. children registered their perceptions of the differences rather accurately. Owing to the size of the sample, the reader is cautioned to view the data accordingly.

3.1 Is there a significant relationship between the dimensions of the MCI and teachers' attitudes as measured by the MTAI?

The inconsistencies and contradictions which existed between the MTAI and the IDER findings were equally evident when the MTAI results were compared with those of the MCI. No clear pattern, or relationship could be discerned. Pupils with a teacher scoring low on the MTAI perceived their teacher more favourably in certain instances, than those pupils who had a teacher with a high MTAI score.

It must be concluded that the MTAI was not a valid predictor or indicant, of teachers' influence based on E.M.R. children's perceptions, or opinions as expressed in the audio-taped interviews. For example, Teacher 1 who had the lowest MTAI score among the Junior opportunity class teachers showed the highest rating on Satisfaction and Intimacy, the least amount of Friction, and the second lowest on Competition and Difficulty. Her children demonstrated a genuine liking for the class and the teacher.

Among the Elementary opportunity class teachers, the one with the highest MTAI score had the second highest amount of Difficulty and Friction, was rated third on Intimacy and second on Satisfaction, and showed least perceived Competition. Her children were either turbulent or passive, often expressing indifference and lack of appreciation for the teacher's efforts on their behalf.

4.0 What relationship exists between IDER results of Flanders-Galloway Categories System and climate scores of the MCI?

Again, this question has been answered indirectly in an earlier section. There appeared to be a very close correspondence between the classroom climate as defined by the several IDER ratios, and the climate scores of the MCI. At least the fluctuations in results among the several teachers' ratios were reflected in the variations of the pupils' perceptions of the different teachers' *modus operandi*. It can be stated, therefore, that a relationship was found between IDER and MCI results for this investigation.

5.0 Is there a significant relationship between teacher characteristics and IDER results of the Flanders-Galloway interaction matrix?

This is not an easy question to answer. Owing to the nature of the research methods, and the emphasis on a descriptive approach to the study, it was not possible to control for the variables identified as teacher characteristics. Therefore no attempt can be made to relate certain variables like age, training, and experience to causal factors. That there were demonstrated differences between and among the ten teachers' individual matrices is only to say that the teachers were different. Such a tautology is not very helpful. The only conclusion that can be made is that this is a research question which will have to be answered using an experimental research design which permits the testing of hypotheses and the isolation of discrete variables.

However, in a further attempt to discover the nature of different teachers' behavior and influence in the special class, three teachers of distinctly different characteristics were chosen. The major variables thought to be of importance included age, training, year of certification, attitude (MTAI), and experience in regular and special education classrooms.

It was possible to identify different classroom climates in relation to certain teacher behaviors, instructional approaches, and management techniques.

Three distinct models were proposed as representing the differences among the three teachers' styles. These were the Talking Model, the Bossy Model, and the Responsive Manager Model. The latter had been trained to behave in a praising, accepting, rewarding manner, associated with behavior modification principles.

Even with having taken a more thorough look at three widely differing teachers, all that can be concluded is that measurable differences in teacher-pupil interaction were evident, and that differences in classroom climate were associated with different behaviors of teachers.

5.1 Is there a significant relationship between the teacher's characteristics and the dimensions of the MCI?

The results of this investigation seem to support the conclusion that whether the teacher was young or old; trained in the thirties, fifties, or seventies; was a degree or non-degree teacher; was experienced in opportunity class teaching or not, no relationships were found between these "independent" variables of teacher characteristics and the "dependent" variables of the five dimensions of the MCI.

This was not surprising in spite of the hope that more definitive trends might have been revealed. The results have served to confirm certain suspicions of the investigator. To this end, in anticipation of the possibility that there might be some disparity evident between teachers' stated goals and role perceptions as special class teachers, and their actual classroom behaviors, it was found that little correspondence existed between what the teachers professed to be their goals and what really happened in the classroom.

Their emotional strengths and personal skills may not have been apace with their intellectualized ideas about child control, class management, and instructional approaches. It may well be that all we have discovered is the proverbial gulf between theory and practice.

As it became apparent near the end of the data collection stage of the research that teachers were not "practising what they preached," the investigator decided to test the perceptions the ten teachers had of their classes and of the individuals in them. A rating form based on the five dimensions of the MCI was devised, and teachers were asked to assess their classroom climates (in disguised form), and to give their opinions about how individual learners behaved in relation to the MCI dimensions (again in disguised form).

The results were more than surprising, and rather dramatic in some instances. It was found that teachers did not see their classes as "the sum of its parts." That is, their perceptions of the several individuals in the class often were at variance with their perception of the class as a whole. There was close agreement on the Satisfaction and Intimacy dimensions. There was radical disagreement on the Friction dimension (64% vs. 5%). Teachers saw their classes as possessing quite a high degree of Friction, but failed to relate it to individual children. There was considerable disagreement also on the Competition and Difficulty dimensions. This same disagreement was found to exist between the teachers' perceptions and those of the pupils for these two dimensions.

Teachers rated Competition for the class at 62%, versus 26% for individuals. Pupils rated Competition on the MCI at 79%. When rating Difficulty for the class, the teachers reported 48%, as opposed to 31% for individuals. Pupils perceived twice the latter amount at 62.6%. It would seem that teachers were not very accurate in assessing the amount of Difficulty that their children were having, or thought that they were having. To what extent these facts influenced the various teachers' behaviours and social-emotional climate in their classrooms is a moot point, and bears further research.

Insofar as the use of the combined Flanders-Galloway Interaction Analysis Categories System is concerned, it might be well to note that teacher behaviors as reflected in the matrices of classroom events are in danger of being viewed as "good" or "bad." The point is, the observer is unaware of the teacher's intent -- a factor which may be more important than has been apparent in discussing classroom learning environments. That is to say, the teacher is unavailable to explain why she behaved as she did, or what goal she was trying to achieve by the pattern of behavior exhibited.

## Implications

This study originated from a series of concerns associated with the investigator's responsibility for planning and administering opportunity classes for the mildly retarded. Chapter 1 includes many of these ruminating concerns by way of a preamble or "setting the stage" for the research.

Because of an interest in learning influences within the context of human relationships and interaction, the immediate implications of contact conditions and contact consequences became apparent. The further implication that the curriculum involves everything that happens to a child at school, led to the interest in what influences may be present in children's formulation of their definition of themselves, and their prospects for success or failure.

The present investigation has been a very small segment of the total implication of schooling, and more particularly of that education which we call special.

It was stated in Chapter 1 that there are a number of children in the elementary school unable to cope with the curriculum prescription, and who are in need of some form of specialized help. Typically this has taken the form of transfer to a segregated opportunity classroom. There are disagreements about the wisdom of this practice. Furthermore, recommendations have been offered to revise current instructional programs to provide a more clinical and child oriented approach (Dunn, 1968); to offer alternative delivery systems (Lily, 1970); or to follow new strategies and alternative models. Gallagher (1967, 1971) emphasized that teacher-pupil interaction has become as significant a research and instructional variable as curriculum content, abilities of children or special education labels, and has stated that, "The benefits of attending special class programs are not strikingly large even under the best of circumstances (1971, p. 3)."

Chapter 1 proposed that three questions needed to be answered; first, the degree to which teaching behavior stimulates or stifles personal development of children's interests, and their involvement in learning; second, the question of teacher effectiveness and influence in special class situations; and third, the practice of placing children of low ability in special classes on the premise that it makes teaching and learning easier.

A number of questions are raised below including one related to selection and training of teachers for the E.M.R. While this study has not provided a definitive answer to Question 5, on the basis of the experiences which this researcher had, including that of completing this study, he could now place major emphasis on retraining of those in special classes, and on identifying those in other settings who would qualify as special education teachers within the proposed definition of such teachers as set out in Chapter 7.

Of necessity, any study of manageable proportions is restricted in its scope. Many questions cannot be considered. Hidden questions arise. Some of these are set forth below:

1. Are there real differences (i.e., those that can be operationally defined) in the teaching that takes place in the opportunity class; or is teaching largely institutionalized and stereotyped (e.g., rote, expository _vs_. discovery or inductive)?
2. What are the implications concerning teachers' professed perceptions and attitudes and their actual teaching behavior?
3. What meaning can be attached to the discrepancies between teachers' perceptions of individual pupils and the class as a group?

4. Do the findings of the Summary Matrix analysis with their evidence of considerable Direct influence and nonverbal Restricting clues have a relationship to curriculum content, teaching methods (process variables), or the presence of certain individual pupils in the classroom?

5. What are the implications for the training and selection of teachers for E.M.R. children?

6. Based on the factor analysis study of the 160 special education teachers who showed many negative attitudes in their approach to children, how justifiable is the claim that they are "special," (and therefore better?)?

7. In view of the findings of the MCI to what extent has learning been made easier for the mildly retarded child (e.g., the Difficulty dimension)?

8. If it cannot be demonstrated that more positive than negative influences exist in opportunity classrooms, what action is indicated in order to guarantee the retarded child's Right to Learn?

9. Can it be implied from the research results that juniors like school less than primary opportunity class youngsters? That is to say, could

the age of the subjects be a confounding variable in interaction analysis research?

10. The study clearly implies the need for further research in such areas as attempting to relate "effects" to MTAI, teacher age, education, experience, teaching techniques, class size and organization, pupil characteristics, curriculum content variables, behavioral objectives and taxonomical educational objectives (e.g. cognitive, affective, and psycho-motor).

The study raised more questions than it answered. This is as it should be, for it points to the need for further research in a number of areas, some of which have been identified.

# BIBLIOGRAPHY

Adams, R. S. Analysing the teacher's role. *Educational Research*. 1970, *12*, 2, 121-127.

Ainsworth, S. H. *An exploratory study of educational, social and emotional factors in the education of mentally retarded children in Georgia Public Schools*. Athens: University of Georgia, 1959.

Amidon, E. J., and Flanders, N. A. *The role of the teacher in the classroom*. Rev. ed. Minneapolis, Minnesota: Association for Productive Teaching, Inc., 1967.

Amidon, E. J., and Hough, J. B. (Eds.). *Interaction Analysis: theory, research, and application*. Reading, Mass.: Addison-Wesley, 1967.

Amidon, E. J., and Simon, A. Teacher-pupil interaction. *Review of Educational Research.* 1965, XXXV, 2, 131-139.

Anderson, G. J. *The assessment of learning environments*: A manual *for the L.E.I. and M.C.I*. Halifax, Nova Scotia: Atlantic Institute of Education, February, 1971.

Anderson, G. J. Effects of course content and teacher sex on the social climate of learning. *American Educational Research Journal*. 1971, *8*, 4, 649-662

Anderson, G. J. Effects of classroom social climate on individual learning. *American Educational Research Journal*. 1970, *7*, 2, 135-152.

Anderson, G. J. Personal communication. December, 1970; January, 1971.

Anderson, G. J., and Walberg H. J. Classroom climate and individual learning. *Journal of Educational Psychology*. 1968, *59*, 6, 414-419.

Anderson, H. H., and Brewer, H. M. Studies of teachers' classroom personalities. I: Dominative and socially integrative behavior of kindergarten teachers. *Psychological Monographs.* 1945, 6.

Anderson, R. C., et al. (Eds.). *Current research on instruction.* Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1969.

Armstrong, R. D., and Lane, P. A. (Eds.). *The education of elementary school teachers*. Proceedings, Second Invitational Conference on Elementary Education, Banff, Alberta, 1967. Edmonton, Alberta: The University of Alberta, Department of Elementary Education.

Ascher, M. A. The attainments of children in ESN schools and remedial departments. *Educational Research*. 1970, *12*, 3, 215-219.

Bailey, M. R. The effects of guided self-analysis on the verbal teaching behaviors and attitudes of student teachers. Unpublished doctoral dissertation. The University of Alberta, 1973.

Bany, M. A., and Johnson, L. V. *Classroom group behavior*. New York: Macmillan, 1964.

Barnes, D. Language and Learning in the classroom. *Journal of Curriculum Studies*. 1971, *3*, 1, 27-38.

Becker, S. Social-class variations in the teacher-pupil relationship. *The Journal of Educational Sociology*. 1952, *25*, 451-465.

Beecher, C. Data gathering devices employed in the Wisconsin Studies. *Journal of Experimental Education.* 1961, *30*, 30-47.

Berman, L. M. *New priorities in the curriculum.* Columbus, Ohio: Charles E. Merrill, 1968.

Bialer, I. Conceptualization of success and failure in mentally retarded and normal children. *Journal of Personality*. 1961, *29*, 303-319.

Biddle, B. J., and Ellena, W. J. (Eds.). *Contemporary research on teacher effectiveness*. N.Y.: Holt, Rinehart and Winston, 1964.

Blackwell, R. B. *A study of effective and ineffective teachers of the trainable retarded*. (Doctoral Dissertation, Colorado State College) Ann Arbor, Michigan: University Microfilm 1968. No. 68-14, 717.

Blum, G. S. *Psychodynamics: the science of unconscious mental forces*. Belmont, Calif.: Brooks/Cole Publishing Company, 1968.

Bowers, N. D., and Soar, R. S. The influence of teacher personality on classroom interaction. *Journal of Experimental Education*. 1962, *30*, 4, 309-311.

Charters, W. W. and Gage, N. L. (Eds.). *Readings in the social psychology of education*. Boston: Allyn and Bacon, 1963.

Clayton, T. E. *Teaching and learning: A psychological perspective*. Englewood Cliffs, N.J.: Prentice-Hall, 1965.

Cleugh, M. F. *The slow learner: Some educational principles and policies*. London: Methuen, 1957.

Cogan, M. L. *The behavior of teachers and the productive behavior of their pupils: I: Perception analysis*. Journal of Experimental Education. 1958, *27*, 12, 89-105.

Coleman, J. C. *Personality dynamics and effective behavior*. Fairlawn, N. J.: Scott, Foresman, 1960.

Combs, A. W., and Snygg, D. *Individual behavior - A perceptual approach to behavior*. N.Y.: Harper and Row, 1959.

Cook, W. W., Leeds, C. H., and Callis, R. *Minnesota Teacher Attitude Inventory*. N.Y.: The Psychological Corp., 1951.

Crainford, L. (Pub.). *One million children*: Report of the Commission on Emotional and Learning Disturbances in Children. Toronto, Canada: 1971.

Cruickshank, W. M. *The brain-injured child in home, school, and community.* Syracuse, N.J.: Syracuse University Press, 1967.

Das, J. P., and Chambers, J. *Socio-economic status and cognitive development*. Edmonton, Alberta: Alberta Human Resources Research Council, 1970.

Davidson, H. H., and Lang, G. Children's perceptions of their teacher's feelings toward them related to self-perception, school achievement and behavior. *Journal of Experimental Education.* 1960, *29*, 2, 107-118.

Day, P. Attitude changes of beginning teachers after initial teaching experience. *Journal of Teacher Education*. 1959, *10*, 3, 326-328.

deCharm, S. R., and Carpenter, V. Measuring motivation in culturally disadvantaged school children. In H. Klausmieir and G. T. O'Hearn. (Eds.). Research and development toward the improvement of education. Madison, Wisc.: Dembar Educational Research Services, Inc., 1968.

Deutsch, M., and Krauss, R. M. Theories in social psychology. New York: Basic Books, Inc., 1965.

Dexter, L. A. The tyranny of schooling: An inquiry into the problem of stupidity. New York: Basic Books, 1964.

Dickman, L. W. Education of intern teachers: an experiment with interaction analysis. Doctoral dissertation, University of Wisconsin. Ann Arbor, Michigan.: University Microfilm, 1967, No. 67-16,925.

Downey, W. The relationship of teaching patterns to organizational climate and teachers' belief systems. Dissertation Abstracts 27, 4[illegible], 898, 1966. Unpublished doctoral dissertation, University of Arizona, 1966.

Dunn, L. M. Special Education for the mildly retarded -- Is much of it justifiable? Exceptional Children, 1968, 35 (1), 5-22.

Easterbrook, J. A. The effect of emotion on cue utilization and the organization of behavior. Psychological Review. 1959, 66, 3, 183-201.

Eisner, E. W. (Ed.). Instructional Objectives. AERA Monograph Series on Curriculum Evaluation. Vol. 3. Chicago: Rand McNally, 1969.

Ekman, P. Communication through nonverbal behavior: A source of information about an interpersonal relationship. In S. S. Tompkins and C. E. Izzard (Eds.). Affect, cognition, and personality. N.Y., Springer, 1965.

Ferguson, G. A. Statistical analysis in psychology and education. 2nd. ed. N.Y.: McGraw-Hill, 1966.

Fine, M. J., Allen, C. A., and Medvene, A. M. Verbal interaction patterns in regular and special classrooms. Psychology in the Schools. 1968, 5, 265-271.

Flanders, N. A. Analyzing teaching behavior. Reading, Mass.: Addison-Wesley, 1970.

Flanders, N. A. Teacher influence, pupil attitudes, and achievement. In R. T. Hyman (Ed.). Teaching vantage points for study. Philadelphia: Lippincott, 1968.

Flanders, N. A. Intent, action and feedback: A preparation for teaching. In E. J. Amidon and J. B. Hough (Eds.). Interaction analysis: theory, research and application. Reading, Mass.: Addison-Wesley, 1967(a).

Flanders, N. A. Teacher influence in the classroom. In E. J. Amidon & J. B. Hough, (Eds.). Interaction analysis: theory, research and application. Reading, Mass.: Addison-Wesley, 1967(b).

Flanders, N. A. The problems of observer training and reliability. In E. J. Amidon, & J. B. Hough, (Eds.). Interaction analysis: research, theory and application. Reading, Mass.: Addison-Wesley, 1967(c).

Flanders, N. A. Some relationships between teacher influence, pupil attitudes and achievement. In B. J. Biddle and W. J. Ellena (Eds.). Contemporary research on teacher effectiveness. New York: Holt, Rinehart, & Winston, 1964(d).

Flanders, N. A. Diagnosing and utilizing social structures in classroom learning. In N. B. Henry, (Ed.). The 59th Yearbook of the NSSE. Chicago, Ill.: The University of Chicago Press, 1960.

Fleming, C. M. The social psychology of education. London: Routledge & Kegan Paul. 1959.

Fleming, C. M. Teaching: A psychological analysis. London: Methuen, 1958.

Flynn, T. M. The effect of a part time special education program on the adjustment of EMR students. Exceptional Children. 1970, 36, 9, 680-681.

Fox, R., Luszki, M., and Schmuck, R. Diagnosing classroom learning environments. Chicago: S.R.A., 1966.

French, R. L. Individualizing classroom communication. Educational Leadership. 1970, 27, 11, 193-196.

French, R. L., and Galloway, C. M. A new look at classroom interactions. Educational Leadership. 1970, 27, 3, 548-552.

French, R. L., and Galloway, C. M. A description of teacher behavior: Verbal and nonverbal. The Ohio State University. 1968.

Fuchigan, R. Y., and Sheper, G. Factors affecting the integration of educable mentally retarded students. Mental Retardation. August, 1968, 18-22.

Furst, N., and Amidon, E. J. Teacher-pupil interaction patterns in the elementary school. In E. J. Amidon and J. B. Hough, (Eds.). Interaction analysis: theory, research and application. Reading, Mass.: Addison-Wesley, 1967.

Gage, N. L. Desirable behaviors of teachers. Urban Education. 1966, 1, 85-95.

Gage, N. L. Successful teacher behavior: Can science contribute to the art of teaching? In The education of elementary school teachers. Proceedings Second Invitational Conference on Elementary Education, Banff, Alberta, October 1967.

Gage, N. L. (Ed.). Handbook of research on teaching. Chicago: Rand McNally, 1963.

Gallagher, J. J. Some proposals for future special education. A paper presented at the Conference Directions for Education of Exceptional Children in Canada. Toronto, Canada: October, 1971.

Gallagher, J. J. A topic classification system for classroom interaction. AERA Monograph. Vol. 6, 1970, 30-73.

Gallagher, J. J. A model for studying teacher instructional strategies. Paper presented at AERA Annual Meeting, 1968.

Galloway, C. M. Teaching is communicating. Pre-publication copy, January, 1971.

Galloway, C. M. Personal communication. January, 1971.

Galloway, C. M. Nonverbal communication: A short course. The Instructor. 1968, 77, 4, 37-42(a).

Galloway, C. M. Nonverbal communication in teaching. In R. T. Hyman (Ed.). *Teaching. Vantage points for study*. Philadelphia: Lippincott, 1968.(b).

Galloway, C. M. Nonverbal communication. *Theory into Practice*. 1968, *7*, 12, 172-175(c).

Giebink, J. W. A failure of the MTAI to relate to teacher behavior. *Journal of Teacher Education*. 1967, *18*, 2, 233-239.

Gerbner, G. A theory of communication and its implications for teaching. In R. T. Hyman (Ed.). *Teaching. Vantage points for study*. Philadelphia: Lippincott, 1968.

Gergen, K. J. *The psychology of behavior exchange*. Reading, Mass.: Addison-Wesley, 1969.

Getzels, J. W., and Jackson, P. W. The teacher's personality and characteristics. In N. L. Gage, (Ed.). *Handbook of research on teaching*. Chicago: Rand-McNally, 1963.

Gibb, J. R. Sociopsychological processes of group instruction. In N. B. Henry (Ed.). *The 59th Yearbook of the NSSE.* Chicago, Ill., The University of Chicago Press, 1960.

Gibson, D. R. The role of the primary and secondary school teacher. *Educational Research.* 1970, 13, 1, 20-27.

Glass, G. V. Factors in teachers' perceptions of students. *Journal of Educational Measurement*. 1967, *4*, 2, 87-93.

Glasser, W. *Schools without failure*. N.Y.: Harper & Row, 1969.

Glick, O. Sixth graders' attitudes toward school and interpersonal conditions of the classroom. *Journal of Experimental Education*. 1970, *38*, 4, 17-22.

Gordon, I. J. *Studying the child in school*. N.Y.: Wiley & Sons, 1966.

Gorman, A. H. *Teachers and learners -- The interactive process of education*. Boston: Allyn & Bacon, 1969.

Green, D. R. *Educational psychology*. Englewood Cliffs, N.J.: Prentice-Hall, 1964.

Gregersen, G. F., and Travers, R. M. W. A study of the child's concept of the teacher. The Journal of Educational Research. 1968, 61, 7, 324-326.

Grobman, H. Evaluation activities of curriculum projects. AERA Monograph. Vol. 2, 1968.

Hall, E. T. The silent language. Greenwich, Conn.: Fawcett Publications, 1959.

Halpern, J. W. Failure, success, and the public schools. Ann Arbor, Mich.: The University of Michigan Research News, 1970. Vol. XXI, No. 1.

Hastorf, A. H., Schneider, D. J., and Polefka, J. Person perception. Reading, Mass.: Addison-Wesley, 1970.

Henry, J. Attitude organization in elementary school classrooms. In W. W. Charters & N. L. Gage. Readings in the social Psychology of education. Boston: Allyn & Bacon, 1963.

Hoelke, G. M. Effectiveness of special class placement for educable mentally retarded children. Lincoln, Nebraska: 1966.

Hoffman, H. The impact of social and emotional factors on the learning process. Inter-institutional seminar in child development. Collected papers, 1961. Edison Institute 1962. 95-103.

Holt, J. The underachieving school. N.Y.: Pittman, 1969.

Holt, J. How children fail. N.Y.: Dell, 1964.

Horn, J. L., and Morrison, W. Lee. Dimensions of teacher attitudes. Journal of Educational Psychology. 1965 56, 3, 118-125.

Hough, J. B. Classroom interaction and the facilitation of learning: The source of instructional theory. In E. J. Amidon and J. B. Hough (Eds.). Interaction analysis: theory, research and application. Reading, Mass.: Addison-Wesley, 1967.

Hudgins, B., and Ahlbrand, P., Jr. Some properties of formal teacher and pupil classroom communication. Psychology in the Schools. 1970, 7, 3, 265-268.

Hughes, M. M., and Associates. The assessment of the quality of elementary teaching: A research report. University of Utah, 1959. Office of Education, Cooperative Research Project No. 353.

Hyman, R. T. Teaching. Vantage points for study. Philadelphia: Lippincott, 1968.

Jackson, P. W. Life in classrooms. N.Y.: Holt, Rinehart and Winston, 1968.

James, D. The taming. A teacher speaks. N.Y.: McGraw-Hill, 1969.

Johnson, B. Why parents aren't happy about special education. The School Guidance Worker. December, 1969, 34-40.

Johnson, G. O. Special education for the mentally handicapped a paradox. Exceptional Children. 1962, 29, 62-69.

Johnson, G. O. A comparative study of the personal and social adjustment of mentally handicapped children placed in special classes with mentally handicapped children who remain in regular classes. Syracuse University Research Institute, Office of Research in Special Education and Rehabilitation, 1961.

Joint Project on the Individual and the School. A climate for individuality. Washington, D.C.: American Association of School Administrators, 1965.

Jones, R. M. Fantasy and feeling in education. New York: New York University Press, 1968.

Kenny, J. B., White, W. F., and Gentry, H. W. Personality characteristics of teachers and their perception of organizational climate. The Journal of Psychology. 1967, 66, 167-174.

Kerlinger, F. N. Foundations of behavioral research. N.Y.: Holt, Rinehart and Winston, 1964.

Kirk, S. A. The challenge of individual differences. In M. M. Tuman, and M. Bressles (Eds.). Conference on Quality in Education. Princeton, N.J.: Princeton University Press, 1966.

Klausmeier, H. and O'Hearn, G. T. (Eds.). *Research and development toward the improvement of education.* Madison, Wisc.: Dembar Educational Research Services, Inc., 1968.

Knight, O. B. *The self concept of educable mentally retarded children in special and regular classes.* (Doctoral Dissertation, University of North Carolina at Chapel Hill) Ann Arbor, Mich.: University Microfilms, 1968, No. 68-67,44.

Kough, J. and DeHaan, R. F. *Identifying children with special needs.* Vol. 1. Chicago: S.R.A., 1955.

Kozol, J. *Death at an early age.* Boston: Houghton-Mifflin, 1967.

Krech, D. and Crutchfield, R. S. *Theory and problems of social psychology.* N.Y.: McGraw-Hill, 1948.

Krathwohl, D. R., Bloom, B. S., and Masia, B. B. *Taxonomy of educational objectives. Handbook II: Affective domain.* N.Y.: David McKay, 1964.

LaBenne, W. D., and Greene, T. I. *Educational implications of self-concept theory.* Pacific Palisades, Calif.: Goodyear Publishing Co., 1969.

Laing, R. D. *The politics of experience.* Baltimore, Md.: Penguin Books, 1967.

Lail, S. S. The model in use -- nonverbal communication. *Theory into Practice.* 1968, *77*, 4, 176-180.

Lewin, K. *Dynamic theory of personality.* New York: McGraw-Hill, 1935.

Lilly, M. S. Special education: A teapot in a tempest? *Exceptional Children.* 1970, *37*, 1, 43-48.

Lindgren, H. C. (Ed.). *Contemporary research in social psychology.* New York: John Wiley & Sons, 1969.

Lindgren, H. C. *An introduction to social psychology.* New York: John Wiley & Sons, 1969.

Lindzey, G. (Ed.). *Handbook of social psychology.* Vol. 2. Reading, Mass.: Addison-Wesley, 1964.

Lippman, L. England's comprehensive schools: Analogy for special education? Exceptional Children. 1969, 36, 4, 279-281.

Little, D. M. Planning for the child who is slow. Special Education in Canada. 1969, 44, 1, 23-26.

Lumsdaine, A. A. Instructional Research: some aspects of its status. In H. J. Klausmeier & G. T. O'Hearn, (Eds.). Research and development the improvement of education. Madison, Wisc.: Dembar Educational Research Services, Inc., 1968.

Lynch, W. W. Personal communication. January, 1971.

Lynch, W. W. Person perception: It's role in teaching. Bulletin of the School of Education, Indiana University, Bloomington, Indiana. Vol. 37, No. 6. November, 1961.

Lynch, W. W., and Ames, C. Differences among special class teachers in individualization of instruction. Bloomington, Indiana: Indiana University, 1963.

Mager, R. F. Developing attitude toward learning. Palo Alto, Calif.: Fearon, 1968.

MacDonald, J. B., and Zaret, E. A study of openess in classroom interactions. In R. T. Hyman (Ed.). Teaching. Vantage points for study. Philadelphia: Lippincott, 1968.

McDonald, F. J. Educational psychology. Second Edition. Belmont, Calif.: Wadsworth, 1965.

Mason, J. L. A study of the relationships between the behavioral styles of classroom teachers and the quality of teacher-student interpersonal relationships. Educational Leadership. 1970, 4, 1, 49-56

McGaugh, J. L. Biological aspects of learning and memory. In J. A. Pintus. Climate for learning. 32nd Educational Conference Report, New York, October, 1967, 47-57.

McGee, J. E. Moderate failure as an instructional tool. Exceptional Children. 1970, 36, 10, 757-761.

McLeish, J. *The science of behavior*. London: Barrie & Rockliff, 1963.

McLuhan, M. *The medium is the message.* New York: Bantam Books, 1967.

Manolakes, G. *The elementary school we need*. Washington, D.C.: ASCD, 1965.

Marasciullo, D. L. *The self-perception of deviate boys in special public school classes and its relationship to their achievement and adjustment*. (Doctoral Dissertation, St. John University,) Ann Arbor University Microfilms, 1969, No. 69-17,748.

Medley, D. M., and Mitzel, H. E. Measuring classroom behavior by systematic observation. In N. L. Gage (Ed.). *Handbook of Research on Teaching*. Chicago: Rand-McNally, 1963.

Medley, D. M., and Mitzel, H. E. A technique for measuring classroom behavior. *Journal of Educational Psychology*. 1958, *49*, 86-92.

Meyerowitz, J. H. Peer groups and special classes. *Mental Retardation.* 1967, October, 23-26.

Minskoff, E. H. *Verbal interactions of teachers and mentally retarded pupils*. (Doctoral Dissertation, Yeshiva University) Ann Arbor, Michigan, University Microfilms 1967, No. 67-9,669.

Morrison, A., and McIntyre, D. *Teachers and teaching*. Baltimore, Md.: Penguin Books, 1969.

Murray, E. J. *Motivation and emotion*. Englewood Cliffs, New Jersey: Prentice-Hall, 1964.

National Society for the Study of Education. Part II. The Sixty-Eighth Yearbook. Tyler, R. W. (Ed.). *Educational Evaluation: New roles, new means.* Chicago: The University of Chicago Press, 1969.

National Society for the Study of Education, Part II. The Fifty-Ninth Yearbook. N. B. Henry (Ed.). *The dynamics of instructional groups -- Socio-psychological aspects of teaching and learning*. Chicago: The University of Chicago Press, 1960.

Neale, D. C., and Proshek, J. M. School related attitudes of culturally disadvantaged elementary school children. *Journal of Educational Psychology*. 1967, *58*, 4, 238-244.

Neufeld, K. A. (Ed.). *Individualized curriculum and instruction*. Proceedings, Third Invitational Conference on Elementary Education, Banff, Alberta, 1969. Edmonton; Alberta: The Department of Elementary Education, The University of Alberta.

Nuthall, G. A. A review of some selected recent studies of classroom interaction and teaching behavior. *AERA Monograph*. No. 6. Chicago: Rand-McNally, 1970. 6-29.

Ohlson, G. A. *The effects of maternal attitudes on self concept and classroom performance in pre-adolescent educable retardates*. (Doctoral Dissertation, University of Michigan) Ann Arbor, Michigan, University Microfilms, 1968, No. 68-7,637.

Osborn, D. K. *Saliencies in student perceptions of teachers*. (Doctoral Dissertation, Wayne State University) Ann Arbor, Michigan, University Microfilms, No. 68-13,446, 1962.

Paxson, W. M. *The teacher's perception of the pupil*. (Doctoral Dissertation, University of Nebraska Teacher College), Ann Arbor, Michigan, University Microfilms, No. 68-18,056, 1968.

Penfold, D. M., and Meldon, R. P. Social sensitivity in relation to teaching competence. *Educational Research*. 1969, *12*, 1, 64-66.

Perkins, H. V. A procedure for assessing the classroom behavior of students and teachers. In R. T. Hyman (Ed.). *Teaching. Vantage points for study*. Philadelphia: Lippincott, 1968.

Piaget, J. *The relation of affectivity to intelligence in the development of the child*. Bulletin, Menninger School of Psychiatry, March, 1961.

Pintus, J. A. *Climate for learning -- The teacher as a person*. 32nd Educational Conference Report: New York, October, 1967.

Postman, N., and Weingartner, C. Teaching as a subversive activity. New York: Delacorte, 1969.

Rabinowitz, W., and Rosenbaum, I. Teaching experience and teacher's attitudes. Elementary School Journal.

Raths, L. Teaching for learning. Columbus, Ohio: Chas. E. Merrill, 1969.

Richardson, E. The environment of learning. London: Nelson, 1967.

Richardson, E. Personal relationships and the work of the classroom. In Pintus, J. A. Climate for learning. The teacher as a person. 32nd Educational conference report. New York, October, 1967.

Rosenblith, J. F., and Allinsmith, W. (Eds.). The causes of behavior. Readings in child development and educational psychology. Second Edition. Boston: Allyn & Bacon, 1966.

Rosenhan, D. L. Effects of social class and race on responsiveness to approval and disapproval. Journal of Personal and Social Psychology. 1966, 4, 3, 253-259.

Rosenshine, B., and Furst, N. Research on teacher performance criteria. In B. O. Smith (Ed.). Research on Teacher Education: A Sumposium. Englewood Cliffs, N.J.: Prentice-Hall, 1971.

Rothenberg, B. B. Children's ability to comprehend adults' feelings and motives. Unpublished doctoral dissertation. Cornell University, 1967.

Rowan, N. T. The relationship of teacher interaction in classroom situations to teacher personality variables. Unpublished doctoral dissertation, University of Utah, 1967, Dissertation Abstracts. 28, 4A, 1312A.

Ryans, D. G. Teacher behavior theory and research: Implications for teacher education. In R. T. Hyman (Ed.). Teaching. Vantage points for study. Philadelphia: Lippincott, 1968.

Ryans, D. G. Teacher behavior theory and research: Implications for teacher education. Journal of Teacher Education. 1963, 14, 274-293.

Ryans, D. G. Some relationships between pupil behavior and certain teacher characteristics. Journal of Educational Psychology. 1961, 52, 2, 82-90.

Ryans, D. G. Characteristics of teachers: Their description, comparison, and appraisal. Washington, D.C.: American Council on Education, 1960.

Rucker, C. N. Maintaining social acceptance gains made by mentally retarded children. Exceptional Children. 1970, 36, 9, 679-680.

Schurr, K. T. The effect of special class placement on the self-concept-of-ability of the educable mentally retarded child. (Doctoral Dissertation, Michigan State University), Ann Arbor, Michigan. University Microfilms 1967, No. 68-7,961.

Sears, P. S. In pursuit of self-esteem: Case studies of eight elementary school children. Belmont, Calif.: Wadsworth, 1964.

Simon, A. The effects of training in interaction analysis on the teaching pattern of student teachers in favoured and non-favoured classes. (Doctoral Dissertation, Temple University). Ann Arbor, Mich.: University Microfilms, 1966, No. 67-6,258.

Simon, A., and Boyer, G. E. (Eds.). Mirrors for behavior: An anthology of classroom observation instruments. Philadelphia: Research for Better Schools, Inc. 1968.

Smith, H. W., and Kennedy, W. A. Effects of three educational programs on mentally retarded children. Perceptual and Motor Skills. 1967, 24, 174.

Smith, L. L., and Stroud, J. B. Effects of comprehensive opportunity program on the development of educable mentally retarded children. Iowa City: College of Education, State University of Iowa, 1960.

Snow, R. E. Toward a model of teacher-learner interaction. Research Memorandum No. 18. Stanford Center for Research and Development in Teaching. Stanford University, Calif., 1968.

Spencer, R. L. The interpersonal check list as an instrument in person perception. (Unpublished doctoral dissertation, The University of Oklahama), 1968, Ann Arbor Michigan: University Microfilms 1968. No. 69-6007.

Stake, R. E. The decision: does classroom observation belong in an evaluation plan? *AERA Monograph Series on Curriculum Evaluation*. Vol. 6, Chicago: Rand-McNally, 1970. 1-5.

Swift, M. S., and Spivak, G. Clarifying the relationship between academic success and overt classroom behavior. *Exceptional Children*. 1969, *36*, 2, 99-104.

Taylor, D. W. Toward an information processing theory of motivation. In M. R. Jones (Ed.). *Nebraska Symposium on Motivation*. Lincoln, Nebraska: University of Nebraska Press, 1960.

Thelen, H. A. *Classroom grouping for teachability*. New York: Wiley, 1967.

Thurstone, T. G. *An evaluation of educating mentally handicapped children in special classes and in regular classes*. Chapel Hill: School of Education, University of North Carolina, 1959.

Tompkins, S. S., and Izard, C. E. *Affect, cognition, and personality. Empirical studies*. New York: Springer, 1965.

Torrance, E. P. Teacher attitude and pupil perception. *Journal of Teacher Education.* 1960, *1*, 11, 98-102.

Unruh, W. R. Teacher-pupil relationships and classroom learning. In E. A. Torgunrud (Ed.). *Charting Direction for Change*. Department of Education, Province of Alberta; 1969.

Waimon, M. D. Feedback in classrooms: A study of corrective teacher responses. *Journal of Experimental Education*. 1962, *30*, 355-359.

Walberg, H. J. Personal communication, January, 1971.

Walberg, H. J. The social environment as a mediator of classroom learning. *Journal of Educational Psychology*. 1969, *60*, 443-448.

Walberg, H. J. Structural and affective aspects of classroom climate. *Psychology in the Schools*. 1968, *5*, 247-253.

Walberg, H. J., and Ahlgren, A. Predictors of the social environment of learning. *American Educational Research Journal*. 1970, *7*, 153-167.

Walberg, H. J., and Anderson, G. J. Classroom climate and individual learning. *Journal of Educational Psychology.* 1968, *59*, 6, 414-419.

Webb, E. J., Campbell, D. T., Schwartz, R. D., and Sechrest, L. *Unobtrusive measures: Nonreactive research in the social sciences*. Chicago: Rand-McNally, 1966.

Withall, J. The development of a technique for the measurement of social-emotional climate in classrooms. *Journal of Experimental Education.* 1949, *17*, 347-361.

Witkin, H. A., et al. *A personality through perception, an experimental and clinical study*. New York: Harper, 1954.

Yee, A. H. Source and direction of causal influence in teacher-pupil relationships. *Journal of Educational Psychology*. 1968, *59*, 4, 275-282.

Yee, A. H. Is the MTAI valid and homogeneous? *Journal of Educational Measurement*. 1967, *4*, 3, 151-161.

Yee, A. H., and Fruchter, B. Factor content of the MTAI *American Educational Research* Journal. 1971, *8*, 1, 119-133.

Yee, A. H., and Kriewall, T. A new logical scoring key for the MTAI. *Journal of Educational Measurement.* 1969, *6*, 1, 11-14

Zander, A., and vanEgmond, E. Relationship of intelligence and social power to the interpersonal behavior of children. In W. W. Charters, and N. L. Gage (Eds.). *Readings in the social psychology of education*. Boston: Allyn & Bacon, 1963.

# APPENDICES

## APPENDIX I

DEPARTMENT OF ELEMENTARY EDUCATION
FACULTY OF EDUCATION

The University of Alberta
Edmonton 7, Alberta, Canada

15 February, 1971

Mr. John Brosseau
Director of Pupil Personnel Services
Edmonton Catholic Schools
9807 - 106 Street
Edmonton, Alberta

Dear Mr. Brosseau:

Allow me to introduce myself. I am on sabbatical and extended leave from my position as Director of Special Education, Saint John City Schools, Saint John, N. B. I am presently in the final year of my doctoral program, and about to undertake my research work. Perhaps you can help me. I should be much obliged if you would approach your junior and primary opportunity class teachers with an invitation to take part in my proposed study. The following information should be self-explanatory. Hopefully we shall have an opportunity to discuss the project in more depth at a time mutually convenient.

You will want to know what I propose to do, even though much of this should not be communicated to the teachers. I will leave it to your professional judgement to withhold information which could contaminate the research results at a later stage. This is a study of classroom teaching. It seems important to answer such questions as which teaching behavior stimulates or stifles the learners' personal interests and intellectual development in the opportunity class; whether or not different teachers' ways of working make a difference in children's learning and attitudes toward learning; what discrepancies may exist between what the special class teacher believes he is doing and what he actually does; in essence, what is special about special class teachers--if indeed, they are special?

The means of getting at answers to these questions are based on my concern with teachers' attitudes, behavior, and influence as revealed by both direct and indirect measures of teacher-pupil interaction, verbal and nonverbal communication patterns, classroom climate, and pupil perceptions of life in the classroom.

The instruments I have chosen are the Minnesota Teacher Attitude Inventory, Flanders Interaction Analysis System, Galloway's Analysis of Nonverbal Communication, and Anderson-Walberg's My Class Inventory.

This involves having teachers respond to two paper and pencil instruments (MTAI & TPE), going into the classroom myself with another trained observer to record verbal and nonverbal behavior, and finally, to administer a paper and pencil test--the MCI, to the pupils themselves.

In terms of time required, the teacher can complete both the MTAI & TPE in one hour at most. Classroom observation would require one hour per week in each of the respective classrooms (a maximum of ten) for four successive weeks--a total of four hours in any one opportunity class. The MCI is a group test which can be administered in 1/2 hour, or less. In those instances of children who are nonreaders, my assistant will administer the inventory on an individual basis during the time I am working with the group.

The research work is being planned in a two-step approach, which will permit me in Step 1 to extend through your office a general invitation to all primary and junior opportunity class teachers in both Edmonton Public and Edmonton Catholic Schools to participate; and in Step 2 to select ten classes on a stratified random by replacement selection process from the pool of teachers who have indicated a willingness to cooperate in the study.

Teachers can be assured of complete anonymity and the researcher's confidentiality. The concern of teachers with evaluation of their competence need not be a factor in this study. The main concern is with getting data which may provide further insight into the teaching-learning process--and in particular to study the various learning environments of a number of opportunity classrooms at the elementary school level.

Your support and endorsement in this matter would be appreciated. May I hear from you as soon as possible? If you need any further information or wish to discuss this matter, I can be reached at either 432-5774 (office), or 434-1528 (home).

I have enclosed a quantity of forms for collecting certain background information which will be considered when the various teachers are selected. Would you circulate these with the initial approach to your staff, and have them returned to you for my later use?

Yours faithfully,

Donald M. Little

Enclosure
DML:jg

cc: Dr. M. Horowitz
Dr. L. Stewart

## APPENDIX I(a)

11416 - 53 Avenue
Edmonton 70, Alberta

March 12, 1971

Dear

By now you will have received Mr. Holt's memorandum of 22nd February 1971, in which he outlined the requests of Dr. Horowitz and myself for your cooperation in a research project. I am a Ph.D. candidate in the Department of Elementary Education at the University of Alberta. Dr. Horowitz, who is Chairman of the Department, is also my thesis supervisor. There is an important need for research that has as its focus primary and junior opportunity classes. With your help I am hopeful that I shall be able to make a contribution in this area.

A method has been developed whereby anonymity and confidentiality can be insured. It is not our wish to identify, or report upon, either teachers or classes. You and your class will each be assigned a letter which is part of a two-letter word. Only I shall be able to match the two for purposes of data collection and analysis.

You will be asked to respond to a paper-and-pencil teacher attitude inventory, and to rate your pupils on certain related criteria to their classroom behavior and performance. This requires no more than one to two hours of your time. Another trained observer in classroom interaction and I will visit your class for an hour in each of four succeeding weeks. We will be asking your children to respond to a questionnaire which we shall be able to administer in approximately one-half hour.

We shall select at random ten teachers from those who volunteer. May we have your decision by March 19th so we may proceed with the selection process and establish a time schedule? I shall be contacting you by telephone prior to that date. In any case would you please complete the enclosed survey form and return it to me in the self-addressed, stamped envelope?

I hope that you will be willing to participate in this study in special education.

Yours sincerely,

Donald M. Little
Graduate Student

c.c.

Enclosure

## APPENDIX I(b)

## SURVEY OF TEACHER'S BACKGROUND AND PARTICULARS

**NOTE:** Your name should not appear on this information sheet, or other inventories you may be asked to complete for this research. Coded designations will be assigned to teachers and classes, respectively.

SCHOOL: ________________________________________

ADDRESS: ______________________ PHONE: ____________

PRINCIPAL: ______________________________________

OPPORTUNITY CLASS LEVEL: ____ Primary ____ Junior ____ Primary-Junior

AGE:
- ____ 20-25
- ____ 26-30
- ____ 31-40
- ____ 41-50
- ____ 51-60
- ____ Over 60

SEX:
- ____ Male
- ____ Female

TRAINING:
- ____ 1 year
- ____ 2 years
- ____ 3 years
- ____ B.A.,B.Sc., other
- ____ B. Ed.
- ____ Graduate Diploma
- ____ Graduate Degree

YEAR FIRST TEACHING CERTIFICATE RECEIVED: 19____

REGULAR CLASS TEACHING EXPERIENCE:
- ____ 1 year
- ____ 2-5 years
- ____ 6-10 years
- ____ Over 10 years

YEARS IN SPECIAL EDUCATION:
- ____ 1 year
- ____ 2-5 years
- ____ 6-10 years
- ____ Over 10 years

## APPENDIX I(c)

11416-53 Avenue
Edmonton 70, Alberta
20 April, 1971

Dear

Please accept my thanks for your favourable response to my letter of 12 March, 1971. Your willingness to participate is appreciated.

You will remember I indicated a random sample would be drawn for the research project. This has now been completed by means of an appropriate procedure.

I am pleased to inform you that your class has been drawn as one of the ten randomly selected.

You will be contacted by telephone prior to the first visit of the trained observer and myself. We are planning to start our rounds on Monday, 26 April, 1971.

A schedule of visits is being prepared, and will be made available to you. I would appreciate discussing them with you so we can be sure they are mutually convenient.

A questionnaire has been enclosed. I invite you to think about it for a time, and then at a later date I shall be asking you to let me have your reactions in writing.

If there are any questions at this time, or any matter you may wish to bring to my attention, please feel free to contact me at home. The telephone number is 434-1528.

I am looking forward to meeting you and your children. Until then my warmest regards to my future Special Friends.

Yours faithfully

Donald M. Little
Graduate Student

## APPENDIX I(d)

11416-53 Ave.
Edmonton 70, Alberta
22 April, 1971

Dear

Thank you for your favourable response to my letter of last month. Your willingness to participate is much appreciated.

You are among the 80% (21/27) of the teachers who have volunteered. I indicated to you earlier that a stratified random sample would be drawn for the research project. This has been completed by means of an appropriate procedure.

Although your class is not one of the ten randomly selected for data collection, you can be of service to the research in another way.

I am asking you to assist me by completing the enclosed attitude inventory, and informal teacher questionnaire. I invite you to think about the questionnaire for a time, and to let me have your reactions in writing.

Coded identification numbers have been assigned to the answer sheet provided for the MTAI, and the questionnaire itself. Your name, or that of the school, should not appear, in order to preserve confidentiality.

There will be no need to return these items by mail. I shall be collecting them personally in the latter part of May. This will give me an opportunity to meet you and to discuss with you certain matters relevant to my research work.

If there are any questions which may arise, please do not hesitate to contact me at home. My telephone number if 434-1528.

I am looking forward to meeting you and my future Special Friends.

Yours faithfully

Donald M. Little
Graduate Student

DO NOT OPEN UNTIL TOLD TO DO SO

# MINNESOTA TEACHER ATTITUDE INVENTORY

Form A

**WALTER W. COOK**
University of Minnesota

**CARROLL H. LEEDS**
Furman University

**ROBERT CALLIS**
University of Missouri

## DIRECTIONS

This inventory consists of 150 statements designed to sample opinions about teacher-pupil relations. There is considerable disagreement as to what these relations should be; therefore, there are no right or wrong answers. What is wanted is your own individual feeling about the statements. Read each statement and decide how YOU feel about it. Then mark your answer on the space provided on the answer sheet. Do not make any marks on this booklet.

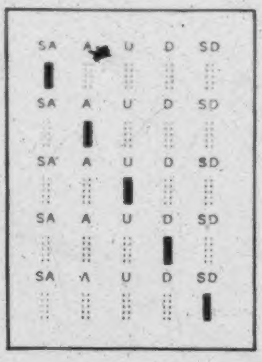
If you **strongly agree,** blacken space under "SA" ..........

If you **agree,** blacken space under "A" ..........

If you are **undecided** or **uncertain,** blacken space under "U" ..........

If you **disagree,** blacken space under "D" ..........

If you **strongly disagree,** blacken space under "SD" ..........



Think in terms of the general situation rather than specific ones. There is no time limit, but work as rapidly as you can. PLEASE RESPOND TO EVERY ITEM.

The inventory contained in this booklet has been designed for use with answer forms published or authorized by The Psychological Corporation. If other answer forms are used, The Psychological Corporation takes no responsibility for the meaningfulness of scores.

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SA—Strongly agree
A—Agree
U—Undecided or uncertain
D—Disagree
SD—Strongly disagree

---

**1.** **Most children are obedient.**

**2.** **Pupils who "act smart" probably have too high an opinion of themselves.**

**3.** **Minor disciplinary situations should sometimes be turned into jokes.**

**4.** **Shyness is preferable to boldness.**

**5.** **Teaching never gets monotonous.**

**6.** **Most pupils don't appreciate what a teacher does for them.**

**7.** **If the teacher laughs with the pupils in amusing classroom situations, the class tends to get out of control.**

**8.** **A child's companionships can be too carefully supervised.**

**9.** **A child should be encouraged to keep his likes and dislikes to himself.**

**10.** **It sometimes does a child good to be criticized in the presence of other pupils.**

**11.** **Unquestioning obedience in a child is not desirable.**

**12.** **Pupils should be required to do more studying at home.**

**13.** **The first lesson a child needs to learn is to obey the teacher without hesitation.**

**14.** **Young people are difficult to understand these days.**

**15.** **There is too great an emphasis upon "keeping order" in the classroom.**

**16.** **A pupil's failure is seldom the fault of the teacher.**

**17.** **There are times when a teacher cannot be blamed for losing patience with a pupil.**

**18.** **A teacher should never discuss sex problems with the pupils.**

**19.** **Pupils have it too easy in the modern school.**

**20.** **A teacher should not be expected to burden himself with a pupil's problems.**

**21.** **Pupils expect too much help from the teacher in getting their lessons.**

**22.** **A teacher should not be expected to sacrifice an evening of recreation in order to visit a child's home.**

**23.** **Most pupils do not make an adequate effort to prepare their lessons.**

**24.** **Too many children nowadays are allowed to have their own way.**

**25.** **Children's wants are just as important as those of an adult.**

**26.** **The teacher is usually to blame when pupils fail to follow directions.**

**27.** **A child should be taught to obey an adult without question.**

**28.** **The boastful child is usually over-confident of his ability.**

**29.** **Children have a natural tendency to be unruly.**

**30.** **A teacher cannot place much faith in the statements of pupils.**

GO ON TO THE NEXT PAGE

SA—Strongly agree
A—Agree

U—Undecided
or uncertain

D—Disagree
SD—Strongly disagree.

---

**31.** Some children ask too many questions.

**32.** A pupil should not be required to stand when reciting.

**33.** The teacher should not be expected to manage a child if the latter's parents are unable to do so.

**34.** A teacher should never acknowledge his ignorance of a topic in the presence of his pupils.

**35.** Discipline in the modern school is not as strict as it should be.

**36.** Most pupils lack productive imagination.

**37.** Standards of work should vary with the pupil.

**38.** The majority of children take their responsibilities seriously.

**39.** To maintain good discipline in the classroom a teacher needs to be "hard-boiled."

**40.** Success is more motivating than failure.

**41.** Imaginative tales demand the same punishment as lying.

**42.** Every pupil in the sixth grade should have sixth grade reading ability.

**43.** A good motivating device is the critical comparison of a pupil's work with that of other pupils.

**44.** It is better for a child to be bashful than to be "boy or girl crazy."

**45.** Course grades should never be lowered as punishment.

**46.** More "old-fashioned whippings" are needed today.

**47.** The child must learn that "teacher knows best."

**48.** Increased freedom in the classroom creates confusion.

**49.** A teacher should not be expected to be sympathetic toward truants.

**50.** Teachers should exercise more authority over their pupils than they do.

**51.** Discipline problems are the teacher's greatest worry.

**52.** The low achiever probably is not working hard enough and applying himself.

**53.** There is too much emphasis on grading.

**54.** Most children lack common courtesy toward adults.

**55.** Aggressive children are the greatest problems.

**56.** At times it is necessary that the whole class suffer when the teacher is unable to identify the culprit.

**57.** Many teachers are not severe enough in their dealings with pupils.

**58.** Children "should be seen and not heard."

**59.** A teacher should always have at least a few failures.

**60.** It is easier to correct discipline problems than it is to prevent them.

GO ON TO THE NEXT PAGE

SA—Strongly agree
A—Agree

U—Undecided
or uncertain

D—Disagree
SD—Strongly disagree

---

**61.** Children are usually too sociable in the classroom.

**62.** Most pupils are resourceful when left on their own.

**63.** Too much nonsense goes on in many classrooms these days.

**64.** The school is often to blame in cases of truancy.

**65.** Children are too carefree.

**66.** Pupils who fail to prepare their lessons daily should be kept after school to make this preparation.

**67.** Pupils who are foreigners usually make the teacher's task more unpleasant.

**68.** Most children would like to use good English.

**69.** Assigning additional school work is often an effective means of punishment.

**70.** Dishonesty as found in cheating is probably one of the most serious of moral offenses.

**71.** Children should be allowed more freedom in their execution of learning activities.

**72.** Pupils must learn to respect teachers if for no other reason than that they are teachers.

**73.** Children need not always understand the reasons for social conduct.

**74.** Pupils usually are not qualified to select their own topics for themes and reports.

**75.** No child should rebel against authority.

**76.** There is too much leniency today in the handling of children.

**77.** Difficult disciplinary problems are seldom the fault of the teacher.

**78.** The whims and impulsive desires of children are usually worthy of attention.

**79.** Children usually have a hard time following instructions.

**80.** Children nowadays are allowed too much freedom in school.

**81.** All children should start to read by the age of seven.

**82.** Universal promotion of pupils lowers achievement standards.

**83.** Children are unable to reason adequately.

**84.** A teacher should not tolerate use of slang expressions by his pupils.

**85.** The child who misbehaves should be made to feel guilty and ashamed of himself.

**86.** If a child wants to speak or to leave his seat during the class period, he should always get permission from the teacher.

**87.** Pupils should not respect teachers any more than any other adults.

**88.** Throwing of chalk and erasers should always demand severe punishment.

**89.** Teachers who are liked best probably have a better understanding of their pupils.

**90.** Most pupils try to make things easier for the teacher.

GO ON TO THE NEXT PAGE

SA—Strongly agree
A—Agree

U—Undecided
or uncertain

D—Disagree
SD—Strongly disagree

---

91. **Most teachers do not give sufficient explanation in their teaching.**

92. **There are too many activities lacking in academic respectability that are being introduced into the curriculum of the modern school.**

93. **Children should be given more freedom in the classroom than they usually get.**

94. **Most pupils are unnecessarily thoughtless relative to the teacher's wishes.**

95. **Children should not expect talking privileges when adults wish to speak.**

96. **Pupils are usually slow to "catch on" to new material.**

97. **Teachers are responsible for knowing the home conditions of every one of their pupils.**

98. **Pupils can be very boring at times.**

99. **Children have no business asking questions about sex.**

100. **Children must be told exactly what to do and how to do it.**

101. **Most pupils are considerate of their teachers.**

102. **Whispering should not be tolerated.**

103. **Shy pupils especially should be required to stand when reciting.**

104. **Teachers should consider problems of conduct more seriously than they do.**

105. **A teacher should never leave the class to its own management.**

106. **A teacher should not be expected to do more work than he is paid for.**

107. **There is nothing that can be more irritating than some pupils.**

108. **"Lack of application" is probably one of the most frequent causes for failure.**

109. **Young people nowadays are too frivolous.**

110. **As a rule teachers are too lenient with their pupils.**

111. **Slow pupils certainly try one's patience.**

112. **Grading is of value because of the competition element.**

113. **Pupils like to annoy the teacher.**

114. **Children usually will not think for themselves.**

115. **Classroom rules and regulations must be considered inviolable.**

116. **Most pupils have too easy a time of it and do not learn to do real work.**

117. **Children are so likeable that their shortcomings can usually be overlooked.**

118. **A pupil found writing obscene notes should be severely punished.**

119. **A teacher seldom finds children really enjoyable.**

120. **There is usually one best way to do school work which all pupils should follow.**

**GO ON TO THE NEXT PAGE**

SA—Strongly agree
A—Agree
U—Undecided or uncertain
D—Disagree
SD—Strongly disagree

121. It isn't practicable to base school work upon children's interests.

122. It is difficult to understand why some children want to come to school so early in the morning before opening time.

123. Children that cannot meet the school standards should be dropped.

124. Children are usually too inquisitive.

125. It is sometimes necessary to break promises made to children.

126. Children today are given too much freedom.

127. One should be able to get along with almost any child.

128. Children are not mature enough to make their own decisions.

129. A child who bites his nails needs to be shamed.

130. Children will think for themselves if permitted.

131. There is no excuse for the extreme sensitivity of some children.

132. Children just cannot be trusted.

133. Children should be given reasons for the restrictions placed upon them.

134. Most pupils are not interested in learning.

135. It is usually the uninteresting and difficult subjects that will do the pupil the most good.

136. A pupil should always be fully aware of what is expected of him.

137. There is too much intermingling of the sexes in extra-curricular activities.

138. The child who stutters should be given the opportunity to recite oftener.

139. The teacher should disregard the complaints of the child who constantly talks about imaginary illnesses.

140. Teachers probably over-emphasize the seriousness of such pupil behavior as the writing of obscene notes.

141. Teachers should not expect pupils to like them.

142. Children act more civilized than do many adults.

143. Aggressive children require the most attention.

144. Teachers can be in the wrong as well as pupils.

145. Young people today are just as good as those of the past generation.

146. Keeping discipline is not the problem that many teachers claim it to be.

147. A pupil has the right to disagree openly with his teachers.

148. Most pupil misbehavior is done to annoy the teacher.

149. One should not expect pupils to enjoy school.

150. In pupil appraisal effort should not be distinguished from scholarship.

# APPENDIX 3

## QUESTIONNAIRE TO SAMPLE TEACHERS' PERCEPTIONS OF THEIR TASK

It would assist the research greatly if you would be kind enough to respond to the following queries. Ideally, it would be appreciated if you would reflect on the various items over the period of the next month, before you record your responses.

1. Why are you teaching in Special Education?
2. What specialized courses, if any, have you had? Where? When?
3. What factor(s) influenced your decision to teach retarded children?
4. In what respects do you see your job as different from that of the regular class teacher's?
5. In what respects to you see your job as the same as that of the regular class teacher's?
6. What objectives for your children have been set out by the Edmonton Public School Board?
    (a) What are your own goals for E. M. R. children?
    (b) In what respects do these goals differ from, or coincide with, those of the elementary school?
    (c) What can be realistically expected of the elementary school E. M. R. child?
7. What status do you enjoy as a special class teacher? (How do colleagues and other professionals view your role?)
8. Please identify any major obstacles, or problems, you experience as a teacher of the mildly retarded.
9. (a) What successes in your special class teaching do you find most satisfying?

    (b) What aspects of your teaching are most discouraging and/or disappointing?
10. In what way(s) do you feel these children could be better served by the school system?

## APPENDIX 4

## TEACHER'S PERCEPTION OF THE CLASS

| | Circle Your Answer | |
|---|---|---|
| 1. Most of the children like each other as friends. | YES | NO |
| 2. The pupils enjoy their schoolwork. | YES | NO |
| 3. The children often fight with each other. | YES | NO |
| 4. The same people always do the best work. | YES | NO |
| 5. Some of the children are mean with each other. | YES | NO |
| 6. Most pupils are pleased with the class. | YES | NO |
| 7. The children find the work hard to do. | YES | NO |
| 8. Children often race to see who can finish first. | YES | NO |
| 9. Many children play together after school. | YES | NO |
| 10. Some pupils don't like the class. | YES | NO |
| 11. Only the "smart" people can do the work of the class. | YES | NO |
| 12. Most children say the class is fun. | YES | NO |
| 13. Most children can do their schoolwork without help. | YES | NO |
| 14. The children like to work with each other. | YES | NO |
| 15. Some children don't like other children. | YES | NO |
| 16. Some pupils are not happy in class. | YES | NO |
| 17. All the children know each other well. | YES | NO |
| 18. Some pupils always try to do their work better than the others. | YES | NO |
| 19. Certain pupils always want to have their own way. | YES | NO |
| 20. Many pupils in the class say school is easy. | YES | NO |
| 21. Certain pupils don't like what other pupils do. | YES | NO |
| 22. The class frequently requires discipline and control. | YES | NO |
| 23. The children appear to be aware of peer relationships. | YES | NO |
| 24. Most pupils know whether they are succeeding or failing. | YES | NO |
| 25. The children's actions are a reasonable reflection of the social-emotional influences present. | YES | NO |

## APPENDIX 5

## TEACHER'S RATING OF PUPIL'S BEHAVIOR

Pupil's Name ____________
Class I.D. Number __________

Check the appropriate column for each item, please.

| | | ALWAYS | NEARLY ALWAYS | UNDECIDED | SOME-TIMES | NEVER |
|---|---|---|---|---|---|---|
| 1. | The child enjoys school. | ____ | ____ | ____ | ____ | ____ |
| 2. | Is not friendly with some children. | ____ | ____ | ____ | ____ | ____ |
| 3. | Tries to do better work than others in the class. | ____ | ____ | ____ | ____ | ____ |
| 4. | Finds the work hard to do. | ____ | ____ | ____ | ____ | ____ |
| 5. | Is happy in class. | ____ | ____ | ____ | ____ | ____ |
| 6. | Other children are unfriendly with the child. | ____ | ____ | ____ | ____ | ____ |
| 7. | Races to get finished first. | ____ | ____ | ____ | ____ | ____ |
| 8. | Says he/she cannot do his/her schoolwork. | ____ | ____ | ____ | ____ | ____ |
| 9. | Finds the class is fun. | ____ | ____ | ____ | ____ | ____ |
| 10. | Is not accepted by the other children. | ____ | ____ | ____ | ____ | ____ |
| 11. | Knows how to do the work. | ____ | ____ | ____ | ____ | ____ |
| 12. | Wants his/her work to be better than friend's work. | ____ | ____ | ____ | ____ | ____ |
| 13. | Other children are mean to the child. | ____ | ____ | ____ | ____ | ____ |
| 14. | Is good friends with most of the class. | ____ | ____ | ____ | ____ | ____ |
| 15. | Wants to be first all the time. | ____ | ____ | ____ | ____ | ____ |
| 16. | Needs a lot of help with his/her schoolwork. | ____ | ____ | ____ | ____ | ____ |
| 17. | Is mean with the other children. | ____ | ____ | ____ | ____ | ____ |
| 18. | Likes to work with others. | ____ | ____ | ____ | ____ | ____ |
| 19. | Appears to like the class. | ____ | ____ | ____ | ____ | ____ |
| 20. | Plays with the other children in the class. | ____ | ____ | ____ | ____ | ____ |
| 21. | Doesn't care who finishes first. | ____ | ____ | ____ | ____ | ____ |
| 22. | Acts distressed, or resentful, about being in a special class. | ____ | ____ | ____ | ____ | ____ |
| 23. | Likes to fight with the other children. | ____ | ____ | ____ | ____ | ____ |
| 24. | Complains that schoolwork is hard. | ____ | ____ | ____ | ____ | ____ |
| 25. | Likes the other children as friends. | ____ | ____ | ____ | ____ | ____ |

# APPENDIX 6

Summary of Categories for Interaction Analysis Using Nonverbal Categories

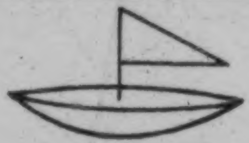
| | | Verbal[1] (Flanders) | Nonverbal (Galloway) | |
|---|---|---|---|---|
| | | | Encouraging | Restricting |
| | | | I. | II. |
| TEACHER TALK | Indirect Influence | 1. ACCEPTS FEELING | | |
| | | 2. PRAISES OR ENCOURAGES | 2. CONGRUENT: nonverbal cues reinforce and further clarify the credibility of a verbal message. | 12. INCONGRUENT: contradiction occurs between verbal and nonverbal cues. |
| | | 3. ACCEPTS OR USES IDEAS OF STUDENT | 3. IMPLEMENT: implementation occurs when the teacher actually uses student's idea either by discussing it, reflecting on it, or turning it to the class for consideration. | 13. PERFUNCTORY: perfunctory use occurs when the teacher merely recognizes or acknowledges student's idea by automatically repeating or restating it. |
| | | 4. ASKS QUESTIONS | 4. PERSONAL: face-to-face confrontation. | 14. IMPERSONAL: avoidance of verbal interchange in which mutual glances are exchanged. |
| | Direct Influence | 5. LECTURES | 5. RESPONSIVE: change in teacher's pace or direction of talk in response to student behavior, i.e., bored, disinterested, or inattentive. | 15. UNRESPONSIVE: inability or unwillingness to alter the pace or direction of lecture disregarding pupil cues. |
| | | 6. GIVES DIRECTIONS | 6. INVOLVE: students are involved in a clarification or maintenance of learning tasks. | 16. DISMISS: teacher dismisses or controls student behavior. |
| | | 7. CRITICISMS OR JUSTIFIED AUTHORITY | 7. FIRM: criticisms which evaluate a situation cleanly and crisply and clarify expectations for the situation. | 17. HARSH: criticisms which are hostile, severe, and often denote aggressive or defensive behavior. |
| STUDENT TALK | | 8. STUDENT TALK-RESPONSE | 8. & 9. RECEPTIVE: involves attitude of listening and interest, facial involvement, and eye contact. | 18. & 19. INATTENTIVE: involves a lack of attending eye contact and teacher travel or movement. |
| | | 9. STUDENT TALK-INITIATION | | |
| | | 10. SILENCE OR CONFUSION | 10. COMFORT: silences characterized by times of reflection, thought, or work. | 20. DISTRESS: instances of embarrassment or tension-filled moments, usually reflecting disorganization and disorientation. |

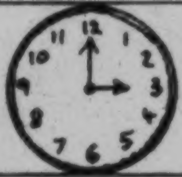
APPENDIX 7

# my class

**name** ____________________

**Grade** ___ **Age** ___

1.

The sky is blue. YES ☆ ☾ NO

2.


Milk is black. YES ☆ ☾ NO

3.

All dogs are big. YES ☆ ☾ NO

4.

My friends like to skip. YES ☆ ☾ NO

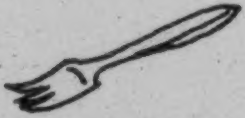
5.

There are a lot of children in my class. YES ☆ ☾ NO

1. In our class school is fun all of the time. YES ☆ ☾ NO

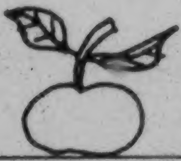
2. Some people in my class are not my friends. YES ☆ ☾ NO

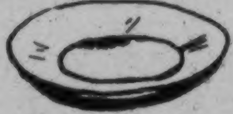
3. The same people always do the best work in our class. YES ☆ ☾ NO

4.  In our class the work is hard to do. YES ☆ ☾ NO

5. All the pupils in my class are close friends. YES ☆ ☾ NO

6. All children in our class are happy. YES ☆ ☾ NO

7.  Some children in our class are not friendly. YES ☆ ☾ NO

8.  Children often race to see who can finish first. YES ☆ ☾ NO

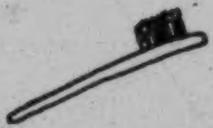
9. In our class all children can do their work. YES ☆ ☾ NO

10. **M**y best friends are in my class. YES ☆ ☾ NO

11. **W**e like what we do in our class. YES ☆ ☾ NO

12. **T**here are some children in my class that nobody likes. YES ☆ ☾ NO

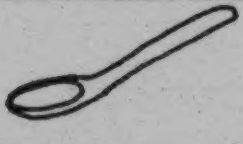
13. **M**ost children want their work to be better than their friends' work. YES ☆ ☾ NO

14.  **C**hildren often find their work hard to do. YES ☆ ☾ NO

15. **I** like to play with people in my class. YES ☆ ☾ NO

16. **O**ur class enjoys school. YES ☆ ☾ NO

17. **S**ome children in my class like to push other children. YES ☆ ☾ NO

18.  **S**ome children in my class want to be first all of the time. YES ☆ ☾ NO

19.

**P**eople in my class say that school is hard.

YES ☆ ☾ NO

---

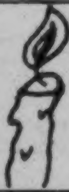
20.

**I**n my class everybody is my friend.

YES ☆ ☾ NO

---

21.

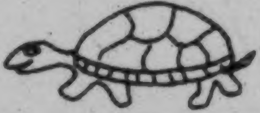


**A**ll of the time we are happy in our class.

YES ☆ ☾ NO

---

22.



**S**ome of the children in our class are mean.

YES ☆ ☾ NO

---

23.

**I**n our class some pupils always want to do best.

YES ☆ ☾ NO

---

24.

**S**ome children need a lot of help with their schoolwork.

YES ☆ ☾ NO

---

25.

**I**n my class I like to work with others.

YES ☆ ☾ NO

---

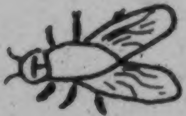
26.

**O**ur class is always fun.

YES ☆ ☾ NO

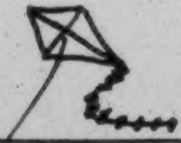
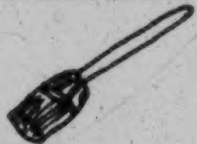
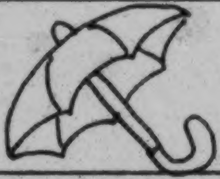
---

27.



**S**ome children do not like the other children in our class.

YES ☆ ☾ NC

| | | | | |
|---|---|---|---|---|
| 28. |  | **S**ome pupils always do better than the rest of the class. | YES ☆ | ☾ NO |
| 29. | | **M**ost children know how to do their work in our class. | YES ☆ | ☾ NO |
| 30. |  | **M**any children in my class play together after school. | YES ☆ | ☾ NO |
| 31. |  | **A**ll of the children like our class. | YES ☆ | ☾ NO |
| 32. | | **S**ome people in our class always want to have their own way. | YES ☆ | ☾ NO |
| 33. | | **M**ost children don't care who finishes first. | YES ☆ | ☾ NO |
| 34. | | **M**any pupils in our class say that school is easy. | YES ☆ | ☾ NO |
| 35. | | **A**ll of the children in our class like each other. | YES ☆ | ☾ NO |

This instrument was developed by Gary J. Anderson of McGill University, and Herbert J. Walberg of Harvard University, April 1969.

APPENDIX 8

# my class

NAME ______________________

AGE ______________________

# DIRECTIONS

This is not a test. The questions inside are to find out what your class is like. Please answer all the questions.

Each sentence is meant to describe your class. If you agree with the sentence circle yes. If you don't agree with the sentence, circle no.

## Example

Circle
Your
Answer

1. Most children in the class are good friends. Yes No

If you think that most children in the class are good friends, circle the yes like this:

1. Most children in the class are good friends. [✓ Yes] No

If you do not think that most children in the class are good friends, circle the no like this:

1. Most children in the class are good friends. Yes [✓ No]

Now turn the page and answer all the questions about your class.

| | Circle Your Answer | |
|---|---|---|
| 1. The pupils enjoy their schoolwork in my class. | Yes | No |
| 2. Children are always fighting with each other. | Yes | No |
| 3. The same people always do the best work in our class. | Yes | No |
| 4. In our class the work is hard to do. | Yes | No |
| 5. My best friends are in my class. | Yes | No |
| 6. Some of the children in our class are mean. | Yes | No |
| 7. Most pupils are pleased with the class. | Yes | No |
| 8. Children often race to see who can finish first. | Yes | No |
| 9. Many children in the class play together after school. | Yes | No |
| 10. Most children can do their schoolwork without help. | Yes | No |
| 11. Some pupils don't like the class. | Yes | No |
| 12. Most children want their work to be better than their friend's work. | Yes | No |
| 13. Many children in our class like to fight. | Yes | No |
| 14. Only the smart people can do the work in our class. | Yes | No |
| 15. In my class everybody is my friend. | Yes | No |

| | Circle Your Answer | |
|---|---|---|
| 16. Most of the children in my class enjoy school. | Yes | No |
| 17. Some pupils don't like other pupils. | Yes | No |
| 18. Some pupils feel bad when they do not do as well as the others. | Yes | No |
| 19. In my class I like to work with others. | Yes | No |
| 20. In our class all the pupils know how to do their schoolwork. | Yes | No |
| 21. Most children say the class is fun. | Yes | No |
| 22. Some people in my class are not my friends. | Yes | No |
| 23. Children have secrets with other children in the class. | Yes | No |
| 24. Children often find their work hard. | Yes | No |
| 25. Most children don't care who finishes first. | Yes | No |
| 26. Some children don't like other children. | Yes | No |
| 27. Some pupils are not happy in class. | Yes | No |
| 28. All of the children know each other well. | Yes | No |
| 29. Only the smart pupils can do their work. | Yes | No |
| 30. Some pupils always try to do their work better than the others. | Yes | No |

Circle
Your
Answer

31. Children seem to like the class. Yes No

32. Certain pupils always want to have their own way. Yes No

33. All pupils in my class are close friends. Yes No

34. Many pupils in our class say that school is easy. Yes No

35. In our class some pupils always want to do best. Yes No

36. Some of the pupils don't like the class. Yes No

37. Children in our class fight a lot. Yes No

38. All of the pupils in my class like one another. Yes No

39. Some pupils always do better than the rest of the class. Yes No

40. Schoolwork is hard to do. Yes No

41. Certain pupils don't like what other pupils do. Yes No

42. A few children in my class want to be first all of the time. Yes No

43. The class is fun. Yes No

44. Most of the pupils in my class know how to do their work. Yes No

45. Children in our class like each other as friends. Yes No

---

This instrument was developed at Harvard University by Gary J. Anderson and Herbert J. Walberg, May 1968. Revised, January 1969, by G.J.Anderson and Ronald E. Cayne, Faculty of Education, McGill University.

## APPENDIX 9

## QUESTIONS FOR CHECKING INDIVIDUAL PUPIL'S RESPONSES ON MCI

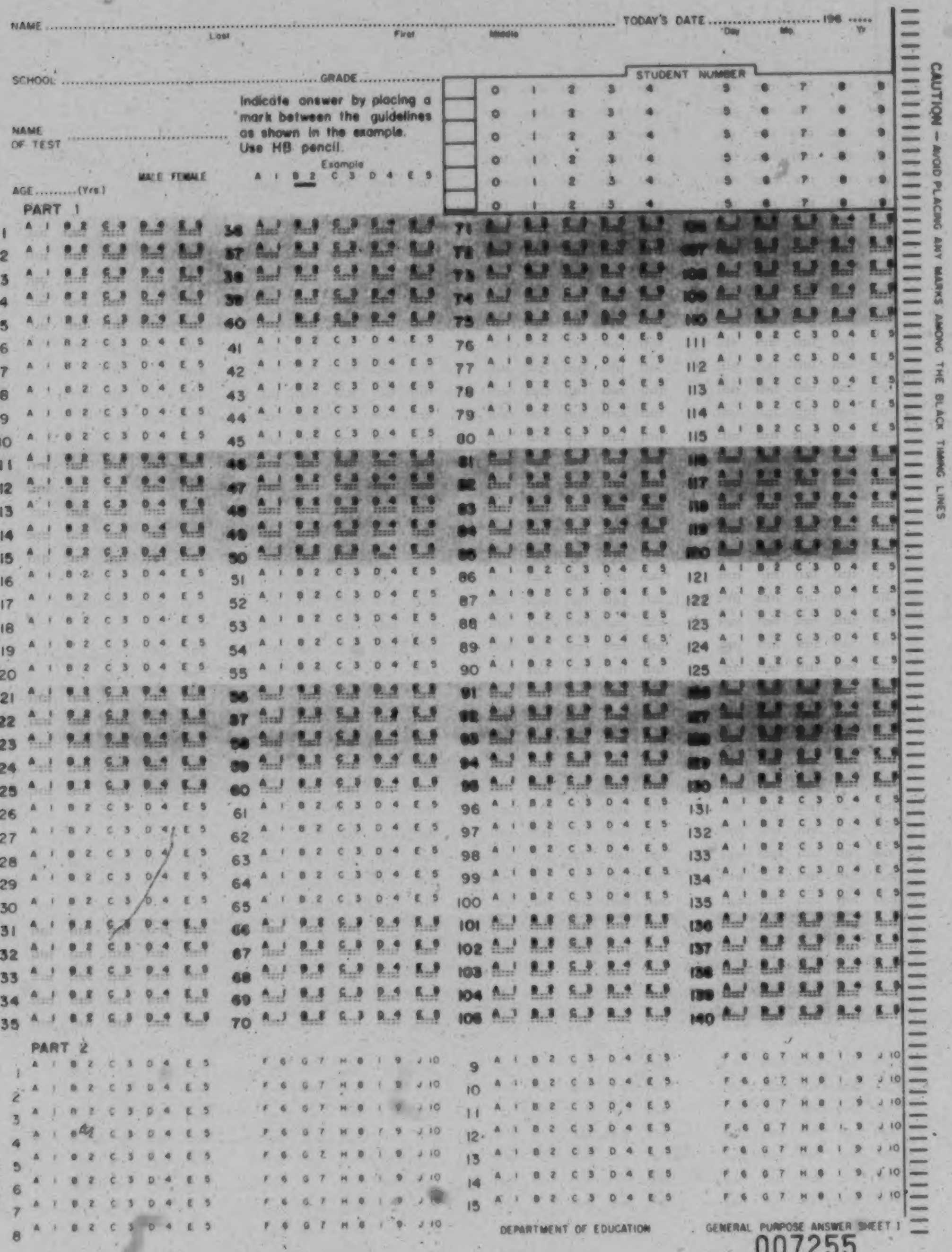
1. Do you like school?
2. Do you like the class you are in?
3. Tell me what you like about your class?
4. Tell me what you don't like about your class?
5. How hard is your school work?
6. What do you think about the things you have to do in your class?
7. How pleased are you with your school work?
8. Do you think you are passing (or getting by)?
9. What would you say to a friend who asks you about this class?
10. How much do you think you are learning in this class?
11. What is your teacher like?
12. What do you especially like about your teacher? Not like?
13. Does the teacher have any habits that you wish she would change? I mean the way she talks or does things. Tell me what you think.
14. (a) What does your teacher think of your work?
    (b) How do you think your teacher feels about you?
15. What would you like to be learning most?

# APPENDIX 10

## BACKGROUND AND PARTICULARS OF TEACHERS IN THE MAJOR STUDY

| N=10 Teacher | Class Level | Age | Training & Qualifications | Year of Certificate | Reg. Class Experience | Sp. Class Experience | MTAI Score () Percentile R. |
|---|---|---|---|---|---|---|---|
| 1 | Junior | 41-50 | 2 yrs | 1953 | 10+yrs | 10+yrs | PR21(8) |
| 2 | Primary | 31-40 | 2 yrs | 1957 | 2-5yrs | 2-5yrs | PR93(93) |
| 3 | Primary | 26-30 | B.A.+ | 1966 | 0 | 2-5yrs | PR54(64) |
| 4 | Junior | 31-40 | M.A. | 1964 | 2-5yrs | 6-10 yrs | PR15(16) |
| 5 | Primary | 51-60 | B.Ed. | 1941 | 6-10 yrs | 2-5yrs | PR75(82) |
| 6 | Junior | 60+ | 1-2/3 yr. | 1929 | 10+yrs | 10+yrs | PR51(44) |
| 7 | Primary | 31-40 | 2 yrs | 1953 | Subbing 4-5yrs | (2yrs) 2-5yrs | PR19(6) |
| 8 | Primary | 20-25 | B.A., B.Ed. | 1970 | 0 | 1 yr | PR75(82) |
| 9 | Junior | 51-60 | 1 yr. | 1936 | 6-10 yrs | 6-10 yrs | PR52(45) |
| 10 | Junior | 41-50 | 3yrs | 1968 | 0 | 2-5yrs | PR54(47) |
| N = 2 | | PILOT STUDY | | | | | |
| N = 2 | Primary | 51-60 | 3yrs | 1966 | 2-5yrs | 2-5yrs | PR85(81) |
| | Junior | 20-25 | B.Ed. | 1966 | 2-5yrs | 1 yr. | PR58(68) |

# APPENDIX 11



NAME ............................................................ Last ............ First ............ Middle ............ TODAY'S DATE ............ Day ...... Mo. ...... 196 .... Yr

SCHOOL ............................................ GRADE ............

| STUDENT NUMBER |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

NAME OF TEST ............................

Indicate answer by placing a mark between the guidelines as shown in the example. Use HB pencil.

Example: A 1 B 2 C 3 D 4 E 5

AGE ........ (Yrs.) MALE FEMALE

PART 1

|  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|
| 1 | A 1 B 2 C 3 D 4 E 5 | 36 | A 1 B 2 C 3 D 4 E 5 | 71 | A 1 B 2 C 3 D 4 E 5 | 106 | A 1 B 2 C 3 D 4 E 5 |
| 2 | A 1 B 2 C 3 D 4 E 5 | 37 | A 1 B 2 C 3 D 4 E 5 | 72 | A 1 B 2 C 3 D 4 E 5 | 107 | A 1 B 2 C 3 D 4 E 5 |
| 3 | A 1 B 2 C 3 D 4 E 5 | 38 | A 1 B 2 C 3 D 4 E 5 | 73 | A 1 B 2 C 3 D 4 E 5 | 108 | A 1 B 2 C 3 D 4 E 5 |
| 4 | A 1 B 2 C 3 D 4 E 5 | 39 | A 1 B 2 C 3 D 4 E 5 | 74 | A 1 B 2 C 3 D 4 E 5 | 109 | A 1 B 2 C 3 D 4 E 5 |
| 5 | A 1 B 2 C 3 D 4 E 5 | 40 | A 1 B 2 C 3 D 4 E 5 | 75 | A 1 B 2 C 3 D 4 E 5 | 110 | A 1 B 2 C 3 D 4 E 5 |
| 6 | A 1 B 2 C 3 D 4 E 5 | 41 | A 1 B 2 C 3 D 4 E 5 | 76 | A 1 B 2 C 3 D 4 E 5 | 111 | A 1 B 2 C 3 D 4 E 5 |
| 7 | A 1 B 2 C 3 D 4 E 5 | 42 | A 1 B 2 C 3 D 4 E 5 | 77 | A 1 B 2 C 3 D 4 E 5 | 112 | A 1 B 2 C 3 D 4 E 5 |
| 8 | A 1 B 2 C 3 D 4 E 5 | 43 | A 1 B 2 C 3 D 4 E 5 | 78 | A 1 B 2 C 3 D 4 E 5 | 113 | A 1 B 2 C 3 D 4 E 5 |
| 9 | A 1 B 2 C 3 D 4 E 5 | 44 | A 1 B 2 C 3 D 4 E 5 | 79 | A 1 B 2 C 3 D 4 E 5 | 114 | A 1 B 2 C 3 D 4 E 5 |
| 10 | A 1 B 2 C 3 D 4 E 5 | 45 | A 1 B 2 C 3 D 4 E 5 | 80 | A 1 B 2 C 3 D 4 E 5 | 115 | A 1 B 2 C 3 D 4 E 5 |
| 11 | A 1 B 2 C 3 D 4 E 5 | 46 | A 1 B 2 C 3 D 4 E 5 | 81 | A 1 B 2 C 3 D 4 E 5 | 116 | A 1 B 2 C 3 D 4 E 5 |
| 12 | A 1 B 2 C 3 D 4 E 5 | 47 | A 1 B 2 C 3 D 4 E 5 | 82 | A 1 B 2 C 3 D 4 E 5 | 117 | A 1 B 2 C 3 D 4 E 5 |
| 13 | A 1 B 2 C 3 D 4 E 5 | 48 | A 1 B 2 C 3 D 4 E 5 | 83 | A 1 B 2 C 3 D 4 E 5 | 118 | A 1 B 2 C 3 D 4 E 5 |
| 14 | A 1 B 2 C 3 D 4 E 5 | 49 | A 1 B 2 C 3 D 4 E 5 | 84 | A 1 B 2 C 3 D 4 E 5 | 119 | A 1 B 2 C 3 D 4 E 5 |
| 15 | A 1 B 2 C 3 D 4 E 5 | 50 | A 1 B 2 C 3 D 4 E 5 | 85 | A 1 B 2 C 3 D 4 E 5 | 120 | A 1 B 2 C 3 D 4 E 5 |
| 16 | A 1 B 2 C 3 D 4 E 5 | 51 | A 1 B 2 C 3 D 4 E 5 | 86 | A 1 B 2 C 3 D 4 E 5 | 121 | A 1 B 2 C 3 D 4 E 5 |
| 17 | A 1 B 2 C 3 D 4 E 5 | 52 | A 1 B 2 C 3 D 4 E 5 | 87 | A 1 B 2 C 3 D 4 E 5 | 122 | A 1 B 2 C 3 D 4 E 5 |
| 18 | A 1 B 2 C 3 D 4 E 5 | 53 | A 1 B 2 C 3 D 4 E 5 | 88 | A 1 B 2 C 3 D 4 E 5 | 123 | A 1 B 2 C 3 D 4 E 5 |
| 19 | A 1 B 2 C 3 D 4 E 5 | 54 | A 1 B 2 C 3 D 4 E 5 | 89 | A 1 B 2 C 3 D 4 E 5 | 124 | A 1 B 2 C 3 D 4 E 5 |
| 20 | A 1 B 2 C 3 D 4 E 5 | 55 | A 1 B 2 C 3 D 4 E 5 | 90 | A 1 B 2 C 3 D 4 E 5 | 125 | A 1 B 2 C 3 D 4 E 5 |
| 21 | A 1 B 2 C 3 D 4 E 5 | 56 | A 1 B 2 C 3 D 4 E 5 | 91 | A 1 B 2 C 3 D 4 E 5 | 126 | A 1 B 2 C 3 D 4 E 5 |
| 22 | A 1 B 2 C 3 D 4 E 5 | 57 | A 1 B 2 C 3 D 4 E 5 | 92 | A 1 B 2 C 3 D 4 E 5 | 127 | A 1 B 2 C 3 D 4 E 5 |
| 23 | A 1 B 2 C 3 D 4 E 5 | 58 | A 1 B 2 C 3 D 4 E 5 | 93 | A 1 B 2 C 3 D 4 E 5 | 128 | A 1 B 2 C 3 D 4 E 5 |
| 24 | A 1 B 2 C 3 D 4 E 5 | 59 | A 1 B 2 C 3 D 4 E 5 | 94 | A 1 B 2 C 3 D 4 E 5 | 129 | A 1 B 2 C 3 D 4 E 5 |
| 25 | A 1 B 2 C 3 D 4 E 5 | 60 | A 1 B 2 C 3 D 4 E 5 | 95 | A 1 B 2 C 3 D 4 E 5 | 130 | A 1 B 2 C 3 D 4 E 5 |
| 26 | A 1 B 2 C 3 D 4 E 5 | 61 | A 1 B 2 C 3 D 4 E 5 | 96 | A 1 B 2 C 3 D 4 E 5 | 131 | A 1 B 2 C 3 D 4 E 5 |
| 27 | A 1 B 2 C 3 D 4 E 5 | 62 | A 1 B 2 C 3 D 4 E 5 | 97 | A 1 B 2 C 3 D 4 E 5 | 132 | A 1 B 2 C 3 D 4 E 5 |
| 28 | A 1 B 2 C 3 D 4 E 5 | 63 | A 1 B 2 C 3 D 4 E 5 | 98 | A 1 B 2 C 3 D 4 E 5 | 133 | A 1 B 2 C 3 D 4 E 5 |
| 29 | A 1 B 2 C 3 D 4 E 5 | 64 | A 1 B 2 C 3 D 4 E 5 | 99 | A 1 B 2 C 3 D 4 E 5 | 134 | A 1 B 2 C 3 D 4 E 5 |
| 30 | A 1 B 2 C 3 D 4 E 5 | 65 | A 1 B 2 C 3 D 4 E 5 | 100 | A 1 B 2 C 3 D 4 E 5 | 135 | A 1 B 2 C 3 D 4 E 5 |
| 31 | A 1 B 2 C 3 D 4 E 5 | 66 | A 1 B 2 C 3 D 4 E 5 | 101 | A 1 B 2 C 3 D 4 E 5 | 136 | A 1 B 2 C 3 D 4 E 5 |
| 32 | A 1 B 2 C 3 D 4 E 5 | 67 | A 1 B 2 C 3 D 4 E 5 | 102 | A 1 B 2 C 3 D 4 E 5 | 137 | A 1 B 2 C 3 D 4 E 5 |
| 33 | A 1 B 2 C 3 D 4 E 5 | 68 | A 1 B 2 C 3 D 4 E 5 | 103 | A 1 B 2 C 3 D 4 E 5 | 138 | A 1 B 2 C 3 D 4 E 5 |
| 34 | A 1 B 2 C 3 D 4 E 5 | 69 | A 1 B 2 C 3 D 4 E 5 | 104 | A 1 B 2 C 3 D 4 E 5 | 139 | A 1 B 2 C 3 D 4 E 5 |
| 35 | A 1 B 2 C 3 D 4 E 5 | 70 | A 1 B 2 C 3 D 4 E 5 | 105 | A 1 B 2 C 3 D 4 E 5 | 140 | A 1 B 2 C 3 D 4 E 5 |

PART 2

|  |  |  |  |  |  |
|---|---|---|---|---|---|
| 1 | A 1 B 2 C 3 D 4 E 5 | F 6 G 7 H 8 I 9 J 10 | 9 | A 1 B 2 C 3 D 4 E 5 | F 6 G 7 H 8 I 9 J 10 |
| 2 | A 1 B 2 C 3 D 4 E 5 | F 6 G 7 H 8 I 9 J 10 | 10 | A 1 B 2 C 3 D 4 E 5 | F 6 G 7 H 8 I 9 J 10 |
| 3 | A 1 B 2 C 3 D 4 E 5 | F 6 G 7 H 8 I 9 J 10 | 11 | A 1 B 2 C 3 D 4 E 5 | F 6 G 7 H 8 I 9 J 10 |
| 4 | A 1 B 2 C 3 D 4 E 5 | F 6 G 7 H 8 I 9 J 10 | 12 | A 1 B 2 C 3 D 4 E 5 | F 6 G 7 H 8 I 9 J 10 |
| 5 | A 1 B 2 C 3 D 4 E 5 | F 6 G 7 H 8 I 9 J 10 | 13 | A 1 B 2 C 3 D 4 E 5 | F 6 G 7 H 8 I 9 J 10 |
| 6 | A 1 B 2 C 3 D 4 E 5 | F 6 G 7 H 8 I 9 J 10 | 14 | A 1 B 2 C 3 D 4 E 5 | F 6 G 7 H 8 I 9 J 10 |
| 7 | A 1 B 2 C 3 D 4 E 5 | F 6 G 7 H 8 I 9 J 10 | 15 | A 1 B 2 C 3 D 4 E 5 | F 6 G 7 H 8 I 9 J 10 |
| 8 | A 1 B 2 C 3 D 4 E 5 | F 6 G 7 H 8 I 9 J 10 |  |  |  |

IBM 5056

DEPARTMENT OF EDUCATION

GENERAL PURPOSE ANSWER SHEET I

007255

CAUTION — AVOID PLACING ANY MARKS AMONG THE BLACK TIMING LINES

## APPENDIX 12

NAME ______________________ Last First Middle

FACULTY or SCHOOL ______________________

AGE ______ Years YEAR or GRADE ______ ☐ Male ☐ Female DATE ______ Day Month Year

1. ______________________

______________________

2. ______________________

Indicate response by placing a mark between the guidelines as shown in the example. Use HB pencil. Don't make marks longer than guidelines.

Example ▬

I. D. NUMBER

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

| | SA | A | U | D | SD | | SA | A | U | D | SD | | SA | A | U | D | SD | | SA | A | U | D | SD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | 41 | | | | | | 81 | | | | | | 116 | | | | | |
| 2 | | | | | | 42 | | | | | | 82 | | | | | | 117 | | | | | |
| 3 | | | | | | 43 | | | | | | 83 | | | | | | 118 | | | | | |
| 4 | | | | | | 44 | | | | | | 84 | | | | | | 119 | | | | | |
| 5 | | | | | | 45 | | | | | | 85 | | | | | | 120 | | | | | |
| 6 | | | | | | 46 | | | | | | 86 | | | | | | 121 | | | | | |
| 7 | | | | | | 47 | | | | | | 87 | | | | | | 122 | | | | | |
| 8 | | | | | | 48 | | | | | | 88 | | | | | | 123 | | | | | |
| 9 | | | | | | 49 | | | | | | 89 | | | | | | 124 | | | | | |
| 10 | | | | | | 50 | | | | | | 90 | | | | | | 125 | | | | | |
| 11 | | | | | | 51 | | | | | | 91 | | | | | | 126 | | | | | |
| 12 | | | | | | 52 | | | | | | 92 | | | | | | 127 | | | | | |
| 13 | | | | | | 53 | | | | | | 93 | | | | | | 128 | | | | | |
| 14 | | | | | | 54 | | | | | | 94 | | | | | | 129 | | | | | |
| 15 | | | | | | 55 | | | | | | 95 | | | | | | 130 | | | | | |
| 16 | | | | | | 56 | | | | | | 96 | | | | | | 131 | | | | | |
| 17 | | | | | | 57 | | | | | | 97 | | | | | | 132 | | | | | |
| 18 | | | | | | 58 | | | | | | 98 | | | | | | 133 | | | | | |
| 19 | | | | | | 59 | | | | | | 99 | | | | | | 134 | | | | | |
| 20 | | | | | | 60 | | | | | | 100 | | | | | | 135 | | | | | |
| 21 | | | | | | 61 | | | | | | 101 | | | | | | 136 | | | | | |
| 22 | | | | | | 62 | | | | | | 102 | | | | | | 137 | | | | | |
| 23 | | | | | | 63 | | | | | | 103 | | | | | | 138 | | | | | |
| 24 | | | | | | 64 | | | | | | 104 | | | | | | 139 | | | | | |
| 25 | | | | | | 65 | | | | | | 105 | | | | | | 140 | | | | | |
| 26 | | | | | | 66 | | | | | | 106 | | | | | | 141 | | | | | |
| 27 | | | | | | 67 | | | | | | 107 | | | | | | 142 | | | | | |
| 28 | | | | | | 68 | | | | | | 108 | | | | | | 143 | | | | | |
| 29 | | | | | | 69 | | | | | | 109 | | | | | | 144 | | | | | |
| 30 | | | | | | 70 | | | | | | 110 | | | | | | 145 | | | | | |
| 31 | | | | | | 71 | | | | | | 111 | | | | | | 146 | | | | | |
| 32 | | | | | | 72 | | | | | | 112 | | | | | | 147 | | | | | |
| 33 | | | | | | 73 | | | | | | 113 | | | | | | 148 | | | | | |
| 34 | | | | | | 74 | | | | | | 114 | | | | | | 149 | | | | | |
| 35 | | | | | | 75 | | | | | | 115 | | | | | | 150 | | | | | |
| 36 | | | | | | 76 | | | | | | | | | | | | | | | | | |
| 37 | | | | | | 77 | | | | | | | | | | | | | | | | | |
| 38 | | | | | | 78 | | | | | | | | | | | | | | | | | |
| 39 | | | | | | 79 | | | | | | | | | | | | | | | | | |
| 40 | | | | | | 80 | | | | | | | | | | | | | | | | | |

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OVERPRINT ANSWER SHEET

## APPENDIX 13

Question 1: Why are you teaching in Special Education?

Interest in the children as persons; source of satisfaction; rewarding; enjoy the children; experience much joy; challenge; circumstances; witnessing a remarkable change over three or four years; a ministry; nobody else wanted them; needs a special teacher--makes me special; nearer to my original plans for social work; concern because children did not learn to read; many have not shown too much academic accomplishment, but can be made satisfied and happy as people; empathy for the child with a learning difficulty; interested in the underachiever; struck by the contradiction of how children could be useful and responsible in their homes, but unable to cope with the school program; troubled by school failures; started with no training, but read up on the subject; should have a love for "these" children; greater demand; desire to inspire the child; like small groups--dislike situations where there are a lot of people--more at home; slow children can and want to learn; E.M.R. child needs more confidence--fostered with positive expectations; a 'grandmother complex'.

Comments gleaned from the remainder of the volunteer pool beyond the major study were equally revealing. For example:

Niece was retarded--handicapped myself (no elaboration)--needed to be needed; curiosity (wasn't too eager to teach in the first place); allows more freedom in the classroom; thought it would be worth a try; controls and structure in regular grades too confining; small enrolments, good hours; flexibility of programming.

Question 2: What specialized courses, if any, have you had? Where? When?

Mostly experience; curriculum and general course on E.M.R. at Syracuse, 1968, 1969; M.A. (Special Ed.), Northwest State Teachers College; U. of Alberta, short courses, 1952, 1953, 1957 in Ed. Psy. and Mental Health; none; no special ed. courses--just common sense and imagination--the children are all the same, just like other children; none--claims experience in the ungraded country school with its many groups; Ed. C.I. Reading and Language--U. of Alberta, 1965, and enrolling for special reading in Summer 1971; graduate courses toward Diploma in Counselling (Personality, Development, and Learning); several Ed. Psy. and Ed. C.I. courses at the U. of Alberta, extension, evening credit, and summer school, 1966-1971; Psychology of Physically Handicapped, U. of Alberta, 1970; Central Washington State College, Perceptual and Conceptual Problems of Neurologically Impaired, 1969; U. of Sask., basic courses in exceptional children, 1956-1960; B. Ed. in the U.S.A., kindergarten curriculum methods, reading, Psychology of the Mentally Retarded, Psychology of Education;

For the larger volunteer group, the majority reported no special training; others, half course to four courses. On the average, teachers had taken one to two courses.

Question 3: What factor(s) influenced your decision to teach retarded children?

Extra pay; small classes I knew would be slow vs. regular class with widely mixed ability; felt she had "won a battle" with her first assignment, so decided to stay on (now 9 yrs.); wanted to specialize in remedial reading; answer to a need; university advisor's suggestion (trial and error); looking for new ways to motivate children; wanted to be part of "making these children want to come to school," to adapt to his outside world; concerned about pupil apathy through repeated failure--too much straight rows and busy work; inability to improve certification owing to a particular eye problem; desire to help underprivileged children who were different; saw self as a good teacher; to challenge the notion of "poor dears who need love, arts and craft curriculum."; need to offer love and understanding; give children the chance to learn, too, by discovery--just as any normal healthy youngster (ideas about instruction); recognition of "alienated class" made me feel my position as a regular class teacher changing over, would facilitate integration.

Some illuminating perceptions were offered by the larger group:

To test my value as a teacher; only job available, felt I had skills and understanding; failures in the regular class; history of association with retarded and handicapped persons; identified with slow kids; "next door influence," and my exposure to E.M.R.'s in my school; success with teaching retarded children in the ordinary class; not taking a job from a younger, less experienced teacher; bonus; stubborn opinion I could do just as good a job, if not better, in communicating with the retarded child, than other teachers--and finally a gradual but sincere liking of the exceptional child.

Question 4: In what respects do you see your job as different from that of the regular class teacher's?

More responsibility for these children--they learn because of not in spite of, the teacher; more demanding --individualization necessary; different methods--children not expected to finish a certain curriculum as regular class is prescribed; variety of different problems--all at different levels; more involved with parents and their (sic) problems; have to be knowledgable in medical and emotional problems affecting learning of these children; same goals apply to special classes --instruction should be as similar as possible to regular class and integration used whereever it can work; greater effort expended; more multi-approach methods; more repetition and review frequently--to develop ability to transfer information; less academically and more vocational courses used; more concrete, fewer abstract concepts presented; more emphasis on creative work--O.P.I. approach; individualization, therefore more prep time; more rewarding; know the children better; more social things to be taught; different role--geared to individual, so each has feeling of accomplishment and personal worth; need to be more flexible; tolerance for noise, behavior irregularities, and lack of middle class manners and values; a sense of humor; incidental teaching vs. formal teaching gets better results; constant imagination, to provide motivation; need to diagnose individual problems; more encouragement; sees no difference --just develop their potential; teacher becomes a "member of the family" in the minds of the children, anyway; direct influence is for four or five years vs. one year of a regular class; building up confidence and self respect; more time to observe, and make referrals for psychologist, physical assessment, leading to better diagnosis of causes and treatment.

Teachers outside the major study make the following additional comments:

Behavior one of the key problems; children are very immature, dictating a different approach; more freedom --no deadlines; few guidelines set out for us--what is the proper sequence?; must protect, or "condition," our pupils to name calling and prejudice by other pupils in the school; conscious of each child's frustration level; mainly a job of diagnosing and remediating.

Question 5: In what respects do you see your job as the same as that of the regular class teacher's?

Have to teach basic academic subjects; teach how to relate to other children and adults, take responsibility, and assume positive attitudes; instruction of similar materials; we are all working with children in an academic setting; no difference--children are entitled to same privilege of getting an education; same needs as any child--love, acceptance, and recognition; we function the same as teachers in regular classes; develop each child to his maximum potential; create classroom atmosphere for developing self-reliance and self-worth; like other teachers, have certain things to teach; highly structured, following as closely as possible the regular class routine; setting certain academic and behavioral objectives,--establishing level commensurate with ability.

Other comments by the volunteer pool:

Kids are kids; transmitting knowledge--teaching the 3 R's; usual cliches (make progress academically and physically); many levels to teach--same problems of motivation; age range is greater, but ability level not necessarily so; management the same as for the regular class.

Question 6: What objectives for your children have been set out by the Edmonton Public School Board?

Prepare children to live in society responsibly; attain some degree of self-fulfillment; to learn to work with specific problems, overcome them, as child cannot cope in regular class situation; no different than for other children, but more intensified effort required to meet needs--social, occupational, personal, or individual; become happy, well-adjusted children, eventually independent and contributing members of society; become functional adults; Board has shown confidence that teachers are efficient in innovating proper programs to insure continuous and maximum achievement for each child; to teach these children to achieve the education of a grade four level, so they can go to L. Y. Cairns (a special vocational school for the senior E.M.R.), and take up some sort of trade; don't know EPSB's goals for my children; no difference--E.M.R. goals same as for any pupil; objectives are set out in Special Class Curriculum Guide, 1965; to give individualized instruction so each may progress to his full potential at his own rate, without the pressure of competition of the regular class; to help each child to develop academically

to his capacity, in a setting of fulfillment rather than frustration; the Board supports teachers in using initiative, exchanging ideas, acquainting ourselves with approved methods used elsewhere.
One teacher provided this outline of objectives of the ESPB:

1) assisting in self-realization
2) fostering suitable human relationships
3) promoting civic responsibility
4) developing economic sufficiency
5) understanding of home and family life, safety
6) social adjustment, physical, mental, and emotional health, understanding others
7) citizenship, management of materials and money

A somewhat devastating answer came from one of the teachers outside the major study; haven't had time or ambition to find out the goals set by the EPSB--I have my own; and, finally: none given me formally--but it has been stated ½ yr. progress per yr. should be expected.

Question 6 (a): What are your goals for E.M.R. Children?

One teacher elaborated as follows: "My goals are parallel to those of the EPSB. I want to make myself a model of committment to a cause. There are more important things than self-realization in a material world--i.e., the worth of a spiritual being. I must share my belief in a super-natural being. It makes for a deeper meaning in my relationship with them. We share joy. They can feel how I feel, and vice versa. It is easier to discipline them too. Another say it thusly: happiness for the child; independence for the child; develop an inquiring mind; good attitude toward school and academic studies; success in school work; Yet another saw her goals as: inspire pupils to live in harmony with God, themselves, and others; realize and accept their limitations; capitalize on strengths and freedom; acquire sufficient knowledge to be worthy of their job, and earn an honest living.
The remaining responses occurred randomly: to use every kind of technique I know to get the child up to grade level; for children to become functional adults; I suspect not all are E.M.R.--some have been misplaced, no test tells. I have higher expectations, so believe many could function in other settings, get responsible jobs.
Encourage children in special individual skills; to get as many back into the regular stream as possible--re-integrate; to develop positive feelings about themselves; social adjustment--a positive climate for E.M.R. child to model after the more healthy attitudes of adjusted

> children; give them self-confidence, a desire to learn, and training methods helpful to them in understanding of usefulness of cooperation among people.
> And finally, three points: recognize individual differences and difficulties; report and seek help for those I'm not qualified to cope with; to see they function as happy well-adjusted individuals.

Other teachers in the remained of the volunteer group offered these goals:

> to read and understand enough to "get along," without being totally dependent on others; each child at a grade four level in reading, arithmetic, and language, by age twelve; seldom do we reach my goal (emotional, and pupil adjustment); concerned intellectual development not be neglected for social development or therapeutic arts and crafts.

Question 6 (b): In what respects do these goals differ from, or coincide with, those of the elementary school?

> Seven teachers replied they say no difference. Two said they didn't know, another saw no difference, but methods to achieve them do.
> An interesting statement showed the teacher viewed her goal as a contradiction of the "special class." She saw herself as a "Program Writer" for learning problems in the school as a whole. A strong support was given for integration with age mates.

The wider group of teachers mentioned many of the points outlined above, with these additions:

> Sees a difference, but cannot identify it; it takes twice as long to reach each level as in the elementary school; it's a question of process vs product--of conduct vs content.

Question 6 (c): What can be realistically expected of the elementary school E.M.R. child?

> Become useful citizens, and parents of more of these children; can obtain jobs and work with the average person; will be less noticeable as adults; to be self-sufficient to a degree--to follow directions; capable of leading a normal family life;
> Always expect a little more of child than he is giving.
>
> A view of curriculum and content expectations can be seen in: to read from one to three, or even grade four level; to solve simple arithmetic problems using the

four rules; to print and write legibly; express themselves in oral language; know the value of money; give simple answers to activities that require reasoning.
Some to return to regular or other special classes; expect a great deal--often feel even then should have expected more; much can be realistically expected; set goals high enough to stimulate progress, and prepare them to earn their own living.
Avoid: over-protection; no pampering; learn the rules; learn the consequences; teach facts.
Be honest, polite human beings with respect for others' feelings and property. Look after own welfare.

Turning to the larger group, we find:

I may be underestimating--find their weakness (I've fallen down)--have changed my mind since last year; emphasizing differences has been the tragedy of special education. Is giftedness the only excuse for tolerable differences? The 3 R's!; that pupils act in and out of school like any other child at his level of development; remain in the regular grades, and participate fully in school life; respect authority; be a good follower; achieve at own individual level.

Question 7: What status do you enjoy as a special class teacher? (How do colleagues and other professionals view your role?)

Nothing special--seen as one with great deal of patience; none; shorter days--people say they don't know how we do it; equal status, and treated so by colleagues; am viewed with respect by some--mixed reaction to special class teacher--some see it as a soft touch, with nine or ten kids--no supervision or dishes, though!; role unchanged--used to have regular class in the same shcool; have no idea of my status as the special class teacher; seen as difficult role--colleagues cooperative--viewed much the same as regular class teacher; happy with my status among colleagues and professionals; respect what I'm doing.

The image is changing:
Were previously pitied (How do you stand it?)
Considered as a waste of time, effort, and money
Your children only useless burdens
Now:
Regular class teachers investigating, trying our methods and attitudes to help regular class pupils with difficulties
We are showing the way!

> Major problem lies within "my own thinking," giving the impression we have (some of us) all the answers; treated as a member of the teaching staff--behind me all the way, but, principal's office and administration another matter--there is no support or understanding--see special ed as a waste of the tax payer's money.

Comments from remainder of volunteer group:

> Great--I'm senior here--positive feedback, admired; get more materials and get out earlier; dubious in this school--seen as same level as their students, suggesting we're rather "strange" wanting to work with dummies--sometimes uncomfortable; equal recognition, in a limited sense thought of as a resource teacher; none; something of a specialist on psychological problems of children; the dumping ground for troublesome children.

Question 8: Please identify any major obstacles, or problems, you experience as a teacher of the mildly retarded.

> No one to assist in preparation of materials; no teaching aide; the inharmony (sic) among the children; own administration has no clear idea of what special education means; use of certain procedures (e.g. token economy) leaves no time to "teach;" confused by so much conflicting ideas of how to teach special ed.; lack of experience; labels--retard, dumb; don't have the qualifications (education and training) to "apply" recommended remediation; (Three teachers indicated this obstacle.) would be better if we became the psychologists and learned in what ways individuals with different deficiencies learned best; time, class size are against me--can't work individually with children (six maximum!); lack of supplies; no relief from supervision--all noon hours + three mornings--just too much--teacher and pupil need time away from each other; parental disinterest and lack of understanding--seldom cooperate; (Again three teachers mentioned this.). Another three mentioned the cruelty of the children in regular class toward their students--stigma and insult; lack of sequential materials; pupils' own bitterness and resentment--the children's poor self-image; difficulty in taking these kids on field trips or including them in enrichment programs.

The larger group had this to say:

> Acquiring enough patience; bus schedules--not being involved in school decisions--feeling of isolation; never know enough; no respite from supervision; special kids' low status; discrimination by other kids--ostracism by other teachers and kids; variety of methods

to know how present the same concepts over; school day too short--special equipment needed; absence of cooperation with other elementary teachers.

Question 9 (a): What successes in your special class teaching do you find most satisfying?

Pupil growth--from lacking self-confidence to having pride and desire to overcome obstacles; a child's happy and confident smile--fewer tears; when a child grasps a concept or learns a piece of information; we have all become friends (two teachers)--children feel free with me--former pupils remember me, come back to visit; not sure any success existed--have concentrated on developing reading skills; that each child is being given a chance to learn and it's paying off; getting two children back into the regular stream; disappearance of behavior problems, and obvious growth of positive self-image; progress in reading and arithmetic; having the best behaved class in the school and knowing that no other teacher can refer to my class as the "animals"--i.e., overcoming other teachers' attitudes; when an emotional problem is resolved; seeing change in behavior and work habits in a relaxed atmosphere.
One teacher listed five sources of satisfaction: warm, friendly cooperation from parents; good attendance--because children like to come to school; fine cooperation from central office and my school administration and staff; children's comments of pleasure and progress I see in them; how well the children relate to strangers and visitors to the room.

Additional comments from the other thirteen teachers:

Children accepting their limitations; striving to improve; wider acceptance; working independently; getting pupils back in the regular class.

Question 9 (b): What aspects of your teaching are most discouraging and/or disappointing?

Medical people won't refer to other specialties (neurology, osteopathy, etc.) thus suffering and behavior problems go unresolved; the stigma society gives the children--dumb; feeling of not having done the job as a teacher--failed--come to a blank wall (thankful the day ends or weekend comes, so I can face another day with more success); blind leading the blind--need of in-service workshop with professional people; when new programs fail, and I feel I've wasted time experimenting; problems I think solved which "backfire," so sets back my "ego" and the program;

time and energy run out for the many ideas and things I want to do for the class; that I'm not better qualified; that parents are not concerned with their children's progress (three teachers); when both of us have worked so hard and we are making little progress academically; the unhappy home situations which contribute to the child's problems; (three teachers); taking new children into a class which has settled in, half way through the year; pupils' negative responses, defeatist attitudes, lack of academic motivation; can't get action to have a child transferred, or reassessed for placement.

The larger group mentioned many of the discouragements included above as well as the following:

Kids forgetting--having to reteach so much, so often; grouping problems; would like to be more effective instructor vs. "therapist;" parental inconsistency; when parents don't back the teacher; the tyranny of testing (i.e., no progress is evident on the year-end achievement tests); seeing kids discouraged and disappointed; segregation and rejection by peers; limited academic progress.

Question 10: In what way(s) do you feel these children could be better served by the school system?

More support from the school principal--one of the key persons--same for the public health nurse; children should not be bussed to schools away from their friends; extra supervision (from central office), and lessons for some subjects, but more time in areas like music, social studies, with other children; smaller classes; more money for equipment and materials; prompt evaluations upon referral; speech therapists for every few schools; yearly reassessments and progress reports; more careful screening of teachers with emphasis on better training; EPSB doing a wonderful job--appreciate encouragement of the consultant; more positive program and approach to integrating to get the children back in the mainstream of the normal classroom; give battery of tests, comprehensive assessment, with less reliance on the IQ: give special ed teacher more status when placements are made, especially in integrating; adequate in-service training or workshops; closer contact and relationship with parents--"listening to them;" erase the stigma of "retardee;" create a curriculum which relieves the stress that knowledge at the university level is the only answer; do something to give the teacher a sense of importance and feeling of self-worth; closer supervision of teachers; teacher has to produce--pupil gains a measure of keeping the teacher in her position; token integration does not make a pupil feel a part of that class; the special class as a backup is the answer.

A review of the comments made by those teachers beyond the major study shows their main concern lies in the area of regular class integration and the relationship of the special class to ordinary classes.

> More integration--EPSB though, thinks that's what it is doing. Pave the way for child to be accommodated part time in other subject areas. Phase out the special class--but people aren't educated for this yet. Provide part-time teacher aide (community involvement, volunteers); more liaison with L. Y. Cairns School and the primary classes with us; stay in the neighbourhood school; children would benefit more from richer and more stimulating environment such as the regular class, using a resource teacher for backup and individual work; earlier identification and placement; disapprove of promotion to a segregated school (e.g., L. Y. Cairns); more continuity of program between levels of special classes; more remedial work in the regular grades (i.e., better training in the regular class for borderline cases, especially); avoid several years with the same teacher; change regular class attitudes; teachers and the system have to change; the majority are not now well served; have the special class teacher assist with planning programs and materials for children retained in the ordinary class; schedule a regular school day--don't isolate; work the special class teacher right into the system; stop exaggerating differences--have higher expectations.

# APPENDIX 14

(FACTOR)

ITEM ONE

| Item | 19 | 21 | 24 | 35 | 36 | 46 | 48 | 50 | 54 | 57 | 63 | 65 | 75 | 76 | 80 | 84 | 88 | 92 | 95 | 104 | 109 | 110 | 116 | 118 | 122 | 126 | 128 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Teacher 1 | D | D | A | U | D | SD | D | D | D | D | D | D | SD | A | D | D | D | D | A | U | D | U | D | U | SD | U | U |
| Teacher 2 | D | D | SD | SD | SD | SD | SD | SD | D | D | SD | SD | D | D | SD | D | U | SD | D | D | D | D | SD | D | D | SD | D |
| Teacher 3 | D | D | U | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | U | D | D | D | D | D | D | D |
| Teacher 4 | D | D | A | A | D | SA | D | A | A | A | D | D | A | A | A | D | D | D | A | A | D | D | A | A | D | A | D |
| Teacher 5 | D | D | A | D | D | SD | D | D | D | D | D | D | U | U | D | U | D | D | D | A | D | D | D | D | D | U | A |
| Teacher 6 | U | D | A | U | D | SD | U | U | D | U | U | U | U | U | U | U | D | SD | D | A | U | U | A | D | SA | U | A |
| Teacher 7 | U | A | A | A | D | A | A | A | D | D | A | A | U | A | A | A | A | D | D | A | D | D | U | U | U | D | D |
| Teacher 8 | D | D | A | U | SD | D | U | D | D | D | U | D | D | U | U | D | D | D | D | D | D | D | D | D | D | U | A |
| Teacher 9 | D | U | D | U | A | D | D | D | D | U | U | D | D | U | U | D | D | U | D | D | D | U | D | D | D | U | A |
| Teacher 10 | U | D | A | U | U | D | U | U | D | D | U | D | D | U | U | D | D | U | D | U | D | U | U | D | D | U | U |
| S.D. | | | 1SD | 1SD | 2SD | 4SD | 1 | 1 | | | 1 | 1 | 1 | | 1 | | | 2 | | | | | 1 | | 1 | 1 | |
| D. | 7D | 8D | 1D | 2D | 6D | 4D | 5 | 5 | 9 | 7 | 4 | 7 | 5 | 2 | 3 | 7 | 8 | 6 | 8 | 3 | 9 | 6 | 5 | 7 | 7 | 2 | 4 |
| U. | 3U | 1U | 1U | 5U | 1U | | 3 | 2 | | 2 | 4 | 1 | 3 | 5 | 4 | 2 | 1 | 2 | 2 | 3 | 1 | 4 | 2 | 2 | 1 | 6 | 2 |
| A. | | 1A | 7A | 2A | 1A | 1A | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 1 | 1 | | | 4 | | | 2 | 1 | | 1 | 4 |
| S.A. | | | | | | 1SA | | | | | | | | | | | | | | | | | | | 1 | | |

(FACTOR)

ITEM TWO

| 2 | 34 | 43 | 59 | 60 | 67 | 86 | 99 | 100 | 103 | 115 | 119 | 120 | 124 | 129 | 131 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | D | A | U | SD | SD | D | D | U | D | A | D | U | D | SD | D |
| SD | SD | SD | SD | A | SD | SD | SD | SD | SD | SD | SD | SD | A | SD | SD |
| D | D | SD | A | D | D | D | D | D | D | A | D | D | D | D | D |
| D | D | SD | A | D | SD | A | SD | D | D | A | SD | D | A | D | D |
| SD | SD | SD | A | D | D | D | SD | D | SD | U | SD | SD | SD | SD | SD |
| U | D | D | D | D | SD | D | D | D | D | D | SD | SD | SD | D | D |
| D | D | SD | U | D | D | A | D | D | D | A | SD | SD | D | SD | D |
| D | SD | SD | D | D | D | D | SD | D | SD | D | SD | SD | D | SD | SD |
| D | D | SD | D | D | D | D | D | D | D | D | D | D | D | D | D |
| D | D | SD | D | U | D | D | D | D | D | D | D | D | D | D | D |
| 2 | 3 | 8 | | 1 | 4 | 1 | 4 | 1 | 3 | 1 | 6 | 5 | 2 | 5 | 3 |
| 7 | 7 | 1 | 5 | 7 | 6 | 7 | 6 | 8 | 7 | 4 | 4 | 4 | 6 | 5 | 7 |
| 1 | | | 2 | 1 | | | | 1 | | 1 | | 1 | | | |
| | | 1 | 3 | 1 | | 2 | | | | 4 | | | 2 | | |

ITEM THREE

| 53 | 71 | 89 | 91 | 93 |
|---|---|---|---|---|
| A | U | A | D | D |
| SA | SA | U | A | SA |
| A | A | A | U | A |
| U | A | SA | D | D |
| SA | A | U | D | A |
| D | U | SA | U | U |
| D | A | SA | D | D |
| U | U | A | A | D |
| A | A | SA | U | D |
| A | A | A | A | U |
| | | | | |
| 2 | | | 4 | 5 |
| 2 | 3 | 2 | 3 | 2 |
| 4 | 6 | 4 | 3 | 2 |
| 2 | 1 | 4 | | 1 |

ITEM FOUR

| 17 | 56 | 98 | 107 | 111 | 112 |
|---|---|---|---|---|---|
| A | U | A | A | A | U |
| A | D | SD | A | D | D |
| A | D | D | D | D | D |
| A | A | D | D | A | A |
| A | SD | SD | D | SD | D |
| U | D | SD | SD | D | D |
| A | D | A | U | SA | D |
| U | D | A | A | D | D |
| A | D | D | U | D | A |
| A | A | D | U | D | U |
| | 1 | 3 | 1 | 1 | 1 |
| | 6 | 4 | 3 | 6 | 5 |
| 2 | 1 | | 3 | 2 | 2 |
| 8 | 2 | 3 | 3 | 1 | 2 |

(FACTOR)

ITEM FIVE

| 1 | 6 | 23 | 38 | 79 | 90 | 96 | 101 | | | | | | MTAI SCORE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SA | D | D | A | D | U | D | A | 6<br>SD | 29<br>D | 13<br>U | 13<br>A | 1<br>SA | 8 |
| SA | D | D | SA | D | A | D | SA | 26<br>SD | 22<br>D | 2<br>U | 6<br>A | 6<br>SA | 93 |
| A | U | D | A | D | A | U | A | 1<br>SD | 45<br>D | 5<br>U | 11<br>A | -<br>- | 65 |
| A | D | D | A | D | D | D | A | 4<br>SD | 30<br>D | 1<br>U | 25<br>A | 2<br>SA | 16 |
| A | D | D | A | D | A | D | A | 15<br>SD | 29<br>D | 6<br>U | 11<br>A | 1<br>SA | 82 |
| A | SD | U | A | A | SA | D | SA | 9<br>SD | 22<br>D | 20<br>U | 7<br>A | 4<br>SA | 44 |
| SA | SD | A | D | D | D | SD | A | 6<br>SD | 26<br>D | 7<br>U | 20<br>A | 3<br>SA | 6 |
| A | D | D | A | D | D | SD | A | 10<br>SD | 34<br>D | 9<br>U | 9<br>A | -<br>- | 82 |
| SA | D | A | A | A | D | A | A | 1<br>SD | 37<br>D | 11<br>U | 11<br>A | 2<br>SA | 45 |
| A | D | U | A | A | A | U | A | 1<br>SD | 29<br>D | 20<br>U | 12<br>A | -<br>- | 47 |
| | 2 | | | | | 2 | | | | | | | |
| | 7 | 6 | 1 | 7 | 4 | 5 | | | | | | | |
| | 1 | 2 | | | 1 | 2 | | | | | | | |
| 6 | | 2 | 8 | 3 | 4 | 1 | 8 | | | | | | |
| 4 | | | 1 | | 1 | | 2 | | | | | | |

# APPENDIX 15

## *SCOTT'S PI COEFFICIENTS OF INTER-RATER RELIABILITIES BETWEEN THE TWO OBSERVERS

| Date | Teacher | Interval | Coefficient |
|---|---|---|---|
| 26/4/71 | L1201 | 8 min. | 0.915 |
| 27/4/71 | 01514 | 10-1/2 min. | 0.934 |
| 28/4/71 | T2021 | 8-1/3 min. | 0.958 |
| 29/4/71 | P1609 | 10 min. | 0.960 |
| 4/5/71 | L1201 | 7 min. | 0.921 |
| 12/5/71 | T2021 | 9 min. | 0.803 |
| 17/5/71 | A0119 | 15 min. | 0.960 |
| 27/5/71 | H0805 | 9 min. | 0.855 |
| 27/5/71 | I0906 | 12 min. | 0.914 |
| 27/5/71 | E0520 | 13 min. | 0.936 |
| 2/6/71 | N1415 | 10 min. | 0.839 |
| | | Mean = | 0.897 |

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*Flanders, N.A. "The problems of observer training and reliability" in Amidon, E. J. and Hough, J. B. (ed). Interaction analysis:theory, research, and application. Reading, Mass., Addison-Wesley, 1967, pp. 158-166.

# APPENDIX 16

## IDER Ratios, Area Comparisons, Tally Ratios Calculated for the Summary Matrix Total

Ratio 1: Indirect/Direct, Encouraging (I/D Encour). Categories (1+2+3+4)/Categories (5+6+7).

Ratio 2: Indirect/Direct, Restricting (I/D Restr). Categories (12+13+14)/Categories (15+16+17).

Ratio 3: Indirect/Direct, Total Matrix (I/D Tot). Categories (1+2+3+4+12+13+14)/Categories (5+6+7+15+16+17).

Ratio 4: Teacher Talk/Pupil Talk, Total (TT/PT Tot). Categories (1+2+3+4+5+6+7+12+13+14+15+16+17)/Categories (8+9+18+19).

Ratio 5: Pupil Initiated Talk-Sustained, Encouraging (PIT-Sust Encour). Event frequency Cell (9-9)/Event frequency Cells (8-8) + (9-9).

Ratio 6: Pupil Initiated Talk-Sustained, Restricting (PIT-Sust Restr). Event frequency Cell (19-19)/Event frequency Cells (18-18) + (19-19).

Ratio 7: Pupil Initiated Talk, Total (PIT Tot). Total tallies Columns 9, and 19/Total tallies Columns 8, 18, 9, and 19.

Ratio 8: Teacher Talk, Encouraging/Teacher Talk Restricting. Sums of Columns 1 to 7/Sums of Columns 12 to 17.

Ratio 9: Verbal Behavior, Encouraging/Verbal Behavior, Restricting. Sums of Tallies, Qudrant 1/Sums of Tallies, Quadrant 3.

Ratio 10: Teacher Response Ratio, Encouraging (TRR Encour). Categories (1+2+3)/Categories (1+2+3+6+7).

Ratio 11: Teacher Response Ratio, Restricting (TRR Restr). Categories (12+13)/Categories (12+13+16+17).

Ratio 12: Teacher Response Ratio, Total (TRR Tot). Categories (1+2+3+12+13)/Categories (1+2+3+6+7+12+13+16+17).

Ratio 13: Steady State Cells? Total Tallies. (SSC/TT). Sums of frequencies Cells 1-1, 2-2, 3-3, 4-4, 5-5, 6-6, 7-7, 8-8, 9-9, 10-10, 12-12, 13-13, 14-14, 15-15, 16-16, 17-17, 18-18, 19-19, 20-20/Total tallies (Cell 21-21).

## APPENDIX 16 (Continued)

Ratio 14: Pupil Steady State Response/Total Pupil Talk-Encouraging (PSSR/TPT Encour). Cell frequency 8-8 +9-9/ Cell frequency 1-8 + 1-9 + 2-8 + 2-9 + 3-8 + 3-9 + 4-8 + 4-9 + 5-8 + 5-9 + 6-8 + 6-9 + 7-8 + 7-9 + 8-8 + 8-9 + 9-8 + 9-9 + 10-8 + 10-9.

Ratio 15: Pupil Steady State Response/Total Pupil Talk-Restricting. (PSSR/TPT Restr). Cell frequency 18-18 + 19-19/Cell frequency 11-18 + 11-19 + 12-18 + 12-19 + 13-18 + 13-19 + 14-18 + 14-19 + 15-18 + 15-19 + 16-18 + 16-19 + 17-18 + 17-19 + 18-18 + 18-19 + 19-18 + 19-19 + 20-18 + 20-19.

Ratio 16: Pupil Steady State Response/Total Pupil Talk (PSSR/Tot). Cell frequency 8-8 + 9-9 + 18-18 + 19-19/Sums of cell frequencies in denominators of ratios 14 and 15.

Ratio 17: Content Cross/Total Tallies (CC/TT). Column totals 4 + 5 + Row totals 4 + 5 + Column totals 14 + 15 + Row totals 14 + 15/Total Tallies (Cell 21-21).

Ratio 18: Teacher Question Ratio (TQR). Categories (4 + 14)/ Categories (4 + 14 + 5 + 15).

Ratio 19: Instantaneous Teacher Question Ratio (TQR 89). Cells (8-4) + (9-4) + (8-14) + (18-4) + (19-4) + (18-4) + (19-14)/Cells (8-4) + (8-5) + (9-4) + (9-5) + (18-4) (18-5) + (9-14) + (9-15) + (18-4) + (19-4)+ (18-5) + (19-5) + (18-14) + (18-15) + (19-14) + (19-15).

Ratio 20: Instantaneous Teacher Response Ratio (TRR 89). Total Tallies Rows 8, 9, 18, and 19 + Columns 1, 2, 3, 12 and 13/Rows 8, 9, 18, and 19 + Columns 1, 2, 3, 12, 13, 6, 7, 16, and 17.

Ratio 21: Area A-Encouraging/Area A-Restricting. Cell 1-1 + 1-2 + 1-3 + 2-1 + 2-2 + 2-3 + 3-1 + 3-2 + 3-3/Cells 12-12 + 12-13 + 13-12 + 13-13.

Ratio 22: Area B-Encouraging/Area B-Restricting. Cells 6-6 + 6-6 + 7-6 + 7-7/Cells 16-16 + 16-17 + 17-16 + 17-17.

Ratio 23: Area C-Encouraging/Area C-Restricting. Cells 4-4 + 4-5 + 5-4 + 5-5 /Cells 14-14 + 14-15 + 15-14 + 15-15.

## APPENDIX 16 (Continued)

Ratio 24: Encouraging-Restricting/Restricting-Encouraging (Q2/Q4). Sums of tallies, Quadrant 2/Sums of Tallies, Quadrant 4.

Ratio 25: Sums of Tallies/Total Tallies-Area 1. Tallies in Cols. 1 to 4, Rows 8 and 9/Tallies in Cell 21-21.

Ratio 26: Sums of Tallies/Total Tallies-Area 2. Tallies in Cols. 5 to 7, Rows 8 and 9/Tallies in Cell 21-21.

Ratio 27: Sums of Tallies/Total Tallies-Area 3. Tallies in Cols. 8 and 9, Rows 1 to 7/Tallies in Cell 21-21.

Ratio 28: Sums of Tallies/Total Tallies-Area 4. Tallies in Cols. 8 and 9, Rows 8 to 10/Tallies in Cell 21-21.

Ratio 29: Sums of Tallies/Total Tallies-Area 5. Tallies in Cols. 12-14, Rows 18 and 19/Tallies in Cell 21-21.

Ratio 30: Sums of Tallies/Total Tallies-Area 6. Tallies in Cols. 15 to 17, Rows 18 and 19/Tallies in Cell 21-21.

Ratio 31: Sums of Tallies/Total Tallies-Area 7. Tallies in Cols. 18 and 19, Rows 12 to 17/Tallies in Cell 21-21.

Ratio 32: Sums of Tallies/Total Tallies-Area 8. Tallies in Cols. 18 and 19, Rows 18 to 20/Tallies in Cell 21-21.

Sums of Tallies-Teacher Talk (Total Matrix). Categories 1-7 + Categories 12 to 17 (Column totals).

Sums of Tallies-Pupil Talk (Total Matrix). Categories 8 and 9 + Categories 18 and 19 (Column Totals).

# APPENDIX 17

## IDER MATRIX RATIOS -- SAMPLE RATIO AND INDIVIDUAL TEACHERS' RATIOS

| Ratio Number | Ratio Title | Sample Ratio | Teacher One | Teacher Two | Teacher Three | Teacher Four | Teacher Five | Teacher Six | Teacher Seven | Teacher Eight | Teacher Nine | Teacher Ten |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | I/D Encour | 0.397 | 0.314 | 0.283 | 0.376 | 0.560 | 0.514 | 0.256 | 0.393 | 0.854 | 0.287 | 0.445 |
| 2 | I/D Restr | 0.696 | 0.953 | 0.354 | 0.236 | 0.585 | 0.826 | 0.809 | 0.961 | 2.310 | 1.000 | 0.575 |
| 3 | I/D Total | 0.453 | 0.367 | 0.297 | 0.316 | 0.567 | 0.565 | 0.322 | 0.515 | 0.952 | 0.395 | 0.485 |
| 4 | TT/PT Total | 2.167 | 2.285 | 3.176 | 1.563 | 2.011 | 2.907 | 3.736 | 1.744 | 1.702 | 1.690 | 1.679 |
| 5 | PIT Encour | 0.147 | 0.031 | 0.250 | 0.012 | 0.221 | 0.366 | 0.130 | 0.014 | 0.290 | 0.091 | 0.307 |
| 6 | PIT Restr | 0.450 | 0.563 | 0.778 | 0.850 | 0.673 | 1.000 | 1.000 | 0.000 | 0.676 | 0.064 | 0.455 |
| 7 | PIT Total | 0.314 | 0.303 | 0.401 | 0.517 | 0.421 | 0.431 | 0.233 | 0.104 | 0.400 | 0.176 | 0.339 |
| 8 | TT Enc/ TT Res | 3.558 | 7.367 | 3.981 | 1.464 | 2.357 | 4.292 | 5.121 | 2.602 | 7.777 | 3.628 | 2.041 |
| 9 | VB Enc/ VB Res | 7.032 | 24.352 | 6.905 | 1.972 | 2.665 | 13.451 | 14.683 | 9.639 | 30.271 | 7.170 | 3.787 |
| 10 | TRR Encour | 0.197 | 0.193 | 0.231 | 0.142 | 0.160 | 0.299 | 0.144 | 0.109 | 0.336 | 0.086 | 0.196 |
| 11 | TRR Restr | 0.354 | 0.458 | 0.220 | 0.207 | 0.256 | 0.426 | 0.379 | 0.404 | 0.648 | 0.361 | 0.338 |
| 12 | TRR Total | 0.250 | 0.254 | 0.227 | 0.181 | 0.203 | 0.342 | 0.229 | 0.223 | 0.391 | 0.182 | 0.273 |
| 13 | SSC/Tot Tal | 0.315 | 0.330 | 0.291 | 0.313 | 0.274 | 0.303 | 0.336 | 0.313 | 0.307 | 0.367 | 0.312 |
| 14 | PSSR Encour | 0.335 | 0.407 | 0.232 | 0.306 | 0.179 | 0.264 | 0.141 | 0.458 | 0.247 | 0.479 | 0.440 |
| 15 | PSSR Restr | 0.480 | 0.615 | 0.360 | 0.615 | 0.342 | 0.308 | 0.031 | 0.389 | 0.755 | 0.707 | 0.349 |
| 16 | PSSR Total | 0.302 | 0.363 | 0.193 | 0.244 | 0.180 | 0.222 | 0.121 | 0.415 | 0.245 | 0.485 | 0.379 |
| 17 | C Cross/ Tot | 0.562 | 0.618 | 0.599 | 0.378 | 0.560 | 0.580 | 0.827 | 0.414 | 0.391 | 0.625 | 0.528 |
| 18 | TQR | 0.358 | 0.279 | 0.230 | 0.298 | 0.469 | 0.379 | 0.252 | 0.503 | 0.586 | 0.339 | 0.368 |
| 19 | TQR 89 Tot | 0.391 | 0.300 | 0.137 | 0.091 | 0.536 | 0.512 | 0.391 | 0.543 | 0.509 | 0.343 | 0.271 |

APPENDIX 17 (continued)

| Ratio Number | Ratio Title | Sample Ratio | Teacher One | Teacher Two | Teacher Three | Teacher Four | Teacher Five | Teacher Six | Teacher Seven | Teacher Eight | Teacher Nine | Teacher Ten |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | TRR 89 Tot | 0.442 | 0.449 | 0.484 | 0.400 | 0.312 | 0.574 | 0.467 | 0.368 | 0.324 | 0.351 | 0.484 |
| 21 | A Enc/A Res | 2.429 | 4.250 | 4.667 | 1.000 | 0.400 | 7.714 | 0.714 | 1.286 | 9.500 | 1.000 | 0.667 |
| 22 | B Enc/B Res | 2.633 | 9.429 | 2.069 | 0.569 | 1.238 | 4.389 | 2.532 | 3.520 | 22.750 | 3.519 | 1.214 |
| 23 | C Enc/C Res | 5.687 | 33.235 | 3.568 | 1.344 | 1.684 | 15.351 | 35.357 | 21.522 | 141.571 | 14.389 | 1.925 |
| 24 | E-R/R-E | 1.026 | 1.030 | 1.024 | 1.032 | 1.018 | 1.015 | 1.034 | 1.036 | 1.029 | 1.027 | 1.020 |
| 25 | Area 1/TT* | 0.026 | 0.026 | 0.020 | 0.007 | 0.029 | 0.041 | 0.030 | 0.028 | 0.037 | 0.015 | 0.018 |
| 26 | Area 2/TT | 0.046 | 0.048 | 0.044 | 0.035 | 0.038 | 0.035 | 0.058 | 0.065 | 0.044 | 0.047 | 0.037 |
| 27 | Area 3/TT | 0.087 | 0.083 | 0.072 | 0.056 | 0.092 | 0.081 | 0.104 | 0.110 | 0.097 | 0.068 | 0.088 |
| 28 | Area 4/TT | 0.088 | 0.110 | 0.057 | 0.072 | 0.049 | 0.071 | 0.042 | 0.131 | 0.083 | 0.133 | 0.131 |
| 29 | Area 5/TT | 0.003 | 0.002 | 0.002 | 0.003 | 0.005 | 0.002 | 0.003 | 0.005 | 0.002 | 0.004 | 0.002 |
| 30 | Area 6/TT | 0.008 | 0.005 | 0.011 | 0.019 | 0.011 | 0.009 | 0.006 | 0.006 | 0.002 | 0.007 | 0.010 |
| 31 | Area 7/TT | 0.009 | 0.003 | 0.006 | 0.008 | 0.023 | 0.005 | 0.008 | 0.009 | 0.003 | 0.010 | 0.009 |
| 32 | Area 8/TT | 0.012 | 0.005 | 0.005 | 0.022 | 0.022 | 0.003 | 0.001 | 0.007 | 0.013 | 0.032 | 0.012 |
| 33 | T. Talk-Tot. | 23328 | 1732 | 1315 | 813 | 1591 | 1884 | 2436 | 1639 | 1220 | 1555 | 1399 |
| 34 | P. Talk-Tot. | 7193 | 758 | 414 | 520 | 791 | 648 | 652 | 940 | 717 | 920 | 833 |

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* TT (Total Tallies -- not to be confused with Teacher Talk as indicated in earlier ratios.)

## APPENDIX 18

### RANK ORDER OF IDER RATIOS FOR THE TEN TEACHERS

| Ratio Index | Teacher One | Teacher Two | Teacher Three | Teacher Four | Teacher Five | Teacher Six | Teacher Seven | Teacher Eight | Teacher Nine | Teacher Ten |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 7 | 8 | 6 | 2 | 3 | 10 | 5 | 1 | 9 | 4 |
| 2 | 4 | 9 | 10 | 7 | 5 | 6 | 3 | 1 | 2 | 8 |
| 3 | 7 | 10 | 9 | 2 | 3 | 8 | 4 | 1 | 6 | 5 |
| 4 | 4 | 2 | 10 | 5 | 3 | 1 | 6 | 7 | 8 | 9 |
| 5 | 8 | 4 | 10 | 5 | 1 | 6 | 9 | 3 | 7 | 2 |
| 6 | 7 | 4 | 3 | 6 | 1 | 2 | 10 | 5 | 9 | 8 |
| 7 | 7 | 4 | 1 | 3 | 2 | 8 | 10 | 5 | 9 | 6 |
| 8 | 2 | 5 | 10 | 8 | 4 | 3 | 7 | 1 | 6 | 9 |
| 9 | 2 | 7 | 10 | 9 | 4 | 3 | 5 | 1 | 6 | 8 |
| 10 | 5 | 3 | 8 | 6 | 2 | 7 | 9 | 1 | 10 | 4 |
| 11 | 2 | 9 | 10 | 8 | 3 | 5 | 4 | 1 | 6 | 7 |
| 12 | 4 | 7 | 10 | 8 | 2 | 5 | 6 | 1 | 9 | 3 |
| 13 | 3 | 9 | 4 | 10 | 8 | 2 | 5 | 7 | 1 | 6 |
| 14 | 4 | 8 | 5 | 9 | 6 | 10 | 2 | 7 | 1 | 3 |
| 15 | 3 | 6 | 4 | 8 | 9 | 10 | 5 | 1 | 2 | 7 |
| 16 | 4 | 8 | 6 | 9 | 7 | 10 | 2 | 5 | 1 | 3 |
| 17 | 3 | 4 | 10 | 6 | 5 | 1 | 8 | 9 | 2 | 7 |
| 18 | 8 | 10 | 7 | 3 | 4 | 9 | 2 | 1 | 6 | 5 |
| 19 | 7 | 9 | 10 | 2 | 3 | 5 | 1 | 4 | 6 | 8 |
| 20 | 8 | 10 | 2 | 3 | 6 | 9 | 7 | 5 | 4 | 1 |
| 21 | 4 | 3 | 7 | 10 | 2 | 8 | 5 | 1 | 6 | 9 |
| 22 | 2 | 7 | 10 | 8 | 3 | 6 | 4 | 1 | 5 | 9 |
| 23 | 3 | 7 | 10 | 9 | 5 | 2 | 4 | 1 | 6 | 8 |
| 24 | 4 | 7 | 3 | 9 | 10 | 2 | 1 | 5 | 6 | 8 |

## APPENDIX 18 (Cont'd)

## RANK ORDER OF IDER RATIOS FOR THE TEN TEACHERS

| Ratio Index | Teacher One | Teacher Two | Teacher Three | Teacher Four | Teacher Five | Teacher Six | Teacher Seven | Teacher Eight | Teacher Nine | Teacher Ten |
|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 6 | 7 | 10 | 4 | 1 | 3 | 5 | 2 | 8 | 9 |
| 26 | 3 | 5 | 10 | 7 | 10 | 2 | 1 | 5 | 4 | 8 |
| 27 | 6 | 8 | 10 | 4 | 7 | 2 | 1 | 3 | 9 | 5 |
| 28 | 4 | 8 | 6 | 9 | 7 | 10 | 2 | 5 | 1 | 2 |
| 29 | 5 | 5 | 4 | 1 | 5 | 4 | 1 | 5 | 3 | 5 |
| 30 | 9 | 2 | 1 | 2 | 5 | 7 | 7 | 10 | 6 | 4 |
| 31 | 9 | 7 | 5 | 1 | 8 | 5 | 3 | 9 | 2 | 3 |
| 32 | 7 | 7 | 2 | 2 | 9 | 10 | 6 | 4 | 1 | 5 |

# APPENDIX 19

## IDER MATRIX AND RATIOS FOR TEACHER 1

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | SUM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1- | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| T | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| C | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| R | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 2- | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| T | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| C | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| R | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 3- | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| T | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| C | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| R | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 4- | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| T | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| C | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| R | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 5- | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| T | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| C | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| R | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 6- | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| T | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| C | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| R | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 7- | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| T | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| C | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| R | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 8- | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| T | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| C | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| R | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 9- | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| T | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| C | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| R | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 10- | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| T | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| C | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| R | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 11- | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| T | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| C | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| R | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 12- | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| T | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
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|---|---|---|---|
| RATIO 1 INDIRECT/DIRECT ENCOURAGING | 0.314 | RATIO 18 [illegible] | 0.879 |
| RATIO 2 INDIRECT/DIRECT RESTRICTING | 0.903 | RATIO 19 [illegible] TOTAL | .300 |
| RATIO 3 INDIRECT/DIRECT TOTAL MATRIX | 0.367 | RATIO 20 TEACHER RESPONSE RATIO 20 TOTAL | 0.447 |
| RATIO 4 TEACHER TALK/PUPIL TALK TOTAL | 3.266 | RATIO 21 AREA A-ENCOUR/AREA A-RESTRICT | .900 |
| RATIO 5 PUPIL INITIATED TALK ENCOUR | 0.031 | RATIO 22 AREA B-ENCOUR/AREA B-RESTRICT | 0.420 |
| RATIO 6 PUPIL INITIATED TALK RESTRICT | 0.003 | RATIO 23 AREA C-ENCOUR/AREA C-RESTRICT | 33.830 |
| RATIO 7 PUPIL INITIATED TALK TOTAL | 0.303 | RATIO 24 ENCOUR-RESTRICT/RESTRICT-ENCOUR | 1.030 |
| RATIO 8 T-TALK ENCOUR/T-TALK RESTRICT | 7.367 | AREA 1 SUMS OF TALLIES R0.9 COLS 1-4/TT | 0.096 |
| RATIO 9 VE-ENCOUR/VE-RESTRICT 6-1/0-3 | 24.333 | AREA 2 SUMS OF TALLIES R0.9 COLS 5-7/TT | 0.048 |
| RATIO 10 T.RESPONSE RATIO ENCOURAGING | 0.193 | AREA 3 SUMS OF TALLIES R1-7 COLS 8,9/TT | 0.083 |
| RATIO 11 T.RESPONSE RATIO RESTRICTING | 0.456 | AREA 4 SUMS OF TALLIES R8-10 COLS 8,9/TT | 0.110 |
| RATIO 12 T.RESPONSE RATIO TOTAL | 0.254 | AREA 5 SUMS OF TALLIES R10,10 C12-14/TT | 0.000 |
| RATIO 13 SUM OF DIAGONALS RATIO SD/TT | 0.330 | AREA 6 SUMS OF TALLIES R18,19 C18-19/TT | 0.009 |

## IDER MATRIX AND RATIOS FOR TEACHER 2

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | SUM |
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| T | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| C | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| R | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| SUM | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| T | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| | |
|---|---|
| RATIO 1 INDIRECT/DIRECT ENCOURAGING | 0.283 |
| RATIO 2 INDIRECT/DIRECT RESTRICTING | 0.304 |
| RATIO 3 INDIRECT/DIRECT TOTAL RATIOS | 0.297 |
| RATIO 4 TEACHER TALK/PUPIL TALK TOTAL | 3.170 |
| RATIO 5 PUPIL INITIATED TALK ENCOUR | 0.250 |
| RATIO 6 PUPIL INITIATED TALK RESTRICT | 0.778 |
| RATIO 7 PUPIL INITIATED TALK TOTAL | 0.401 |
| RATIO 8 T-TALK ENCOUR/T-TALK RESTRICT | [illegible] |
| RATIO 9 10-ENCOUR/10-RESTRICT C-1/C-3 | [illegible] |
| RATIO 10 T.RESPONSE RATIO ENCOURAGING | 0.231 |
| RATIO 11 T.RESPONSE RATIO RESTRICTING | [illegible] |
| RATIO 12 T.RESPONSE RATIO TOTAL | 0.227 |
| RATIO 13 SUM OF DIAGONALS RATIO 10C/TT | 0.291 |
| RATIO 18 [illegible] | [illegible] |
| RATIO 19 [illegible] TOTAL | 0.137 |
| RATIO 20 TEACHER RESPONSE RATIO 60 TOTAL | [illegible] |
| RATIO 21 AREA A-ENCOUR/AREA A-RESTRICT | 4.667 |
| RATIO 22 AREA B-ENCOUR/AREA B-RESTRICT | [illegible] |
| RATIO 23 AREA C-ENCOUR/AREA C-RESTRICT | [illegible] |
| RATIO 24 ENCOUR-RESTRICT/RESTRICT-ENCOUR | [illegible] |
| AREA 1 SUMS OF TALLIES [illegible] COLS 1-4/TT | [illegible] |
| AREA 2 SUMS OF TALLIES [illegible] COLS 5-7/TT | 0.044 |
| AREA 3 SUMS OF TALLIES R1-7 COLS 8,9/TT | 0.078 |
| AREA 4 SUMS OF TALLIES R8-10 COLS 8,9/TT | [illegible] |
| AREA 5 SUMS OF TALLIES R18,19 C10-14/TT | [illegible] |
| AREA 6 SUMS OF TALLIES R18,19 C15-17/TT | 0.011 |

# APPENDIX 21

## IDER MATRIX AND RATIOS FOR TEACHER 3

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | SUM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUM | 2 | 14 | 7 | 109 | 212 | 113 | 26 | 226 | 63 | 549 | 27 | 16 | 34 | 13 | 78 | 188 | 64 | 26 | 207 | 250 | 2166 |
| T | 0.1 | 0.6 | 0.3 | 5.0 | 9.8 | 5.2 | 1.2 | 10.4 | 2.9 | 25.3 | 1.2 | 0.7 | 1.6 | 0.6 | 3.6 | 8.9 | 3.0 | 1.2 | 9.6 | 11.5 | 100.0 |

| | |
|---|---|
| RATIO 1 INDIRECT/DIRECT ENCOURAGING | 0.370 |
| RATIO 2 INDIRECT/DIRECT RESTRICTING | 0.236 |
| RATIO 3 INDIRECT/DIRECT TOTAL MATRIX | 0.318 |
| RATIO 4 TEACHER TALK/PUPIL TALK TOTAL | 1.663 |
| RATIO 5 PUPIL INITIATED TALK ENCOUR | 0.012 |
| RATIO 6 PUPIL INITIATED TALK RESTRICT | 0.000 |
| RATIO 7 PUPIL INITIATED TALK TOTAL | 0.017 |
| RATIO 8 T-TALK ENCOUR/T-TALK RESTRICT | 1.464 |
| RATIO 9 SB-ENCOUR/SB-RESTRICT 6-1/8-3 | 1.078 |
| RATIO 10 T.RESPONSE RATIO ENCOURAGING | 0.148 |
| RATIO 11 T.RESPONSE RATIO RESTRICTING | 0.207 |
| RATIO 12 T.RESPONSE RATIO TOTAL | 0.181 |
| RATIO 13 SUM OF DIAGONALS RATIO SSC/TT | 0.313 |
| RATIO 18 TQR(4+14)/(4+14+5+15) | 0.290 |
| RATIO 19 TQRQR R8,9C4/R8,9C4,5 TOTAL | 0.091 |
| RATIO 20 TEACHER RESPONSE RATIO 89 TOTAL | 0.400 |
| RATIO 21 AREA A-ENCOUR/AREA A-RESTRICT | 1.000 |
| RATIO 22 AREA B-ENCOUR/AREA B-RESTRICT | 0.800 |
| RATIO 23 AREA C-ENCOUR/AREA C-RESTRICT | 1.344 |
| RATIO 24 ENCOUR-RESTRICT/RESTRICT-ENCOUR | 1.032 |
| AREA 1 SUMS OF TALLIES R8,9 COLS 1-4/TT | 0.007 |
| AREA 2 SUMS OF TALLIES R8,9 COLS 5-7/TT | 0.036 |
| AREA 3 SUMS OF TALLIES R1-7 COLS 8,9/TT | 0.086 |
| AREA 4 SUMS OF TALLIES R8-10 COLS 8,9/TT | 0.078 |
| AREA 5 SUMS OF TALLIES R10,19 C12-14/TT | 0.063 |
| AREA 6 SUMS OF TALLIES R10,19 C15-17/TT | 0.010 |

## APPENDIX 22

## IDER MATRIX AND RATIOS FOR TEACHER 4

```
        1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17   18   19   20   SUM
 1-  [illegible]
 T   [illegible]
 C   [illegible]
 R   [illegible]
 2-  [illegible]
 T   [illegible]
 C   [illegible]
 R   [illegible]
 3-  [illegible]
 T   [illegible]
 C   [illegible]
 R   [illegible]
 4-  [illegible]
 T   [illegible]
 C   [illegible]
 R   [illegible]
 5-  [illegible]
 T   [illegible]
 C   [illegible]
 R   [illegible]
 6-  [illegible]
 T   [illegible]
 C   [illegible]
 R   [illegible]
 7-  [illegible]
 T   [illegible]
 C   [illegible]
 R   [illegible]
 8-  [illegible]
 T   [illegible]
 C   [illegible]
 R   [illegible]
 9-  [illegible]
 T   [illegible]
 C   [illegible]
 R   [illegible]
10-  [illegible]
 T   [illegible]
 C   [illegible]
 R   [illegible]
11-  [illegible]
 T   [illegible]
 C   [illegible]
 R   [illegible]
12-  [illegible]
 T   [illegible]
 C   [illegible]
 R   [illegible]
13-  [illegible]
 T   [illegible]
 C   [illegible]
 R   [illegible]
14-  [illegible]
 T   [illegible]
 C   [illegible]
 R   [illegible]
15-  [illegible]
 T   [illegible]
 C   [illegible]
 R   [illegible]
16-  [illegible]
 T   [illegible]
 C   [illegible]
 R   [illegible]
17-  [illegible]
 T   [illegible]
 C   [illegible]
 R   [illegible]
18-  [illegible]
 T   [illegible]
 C   [illegible]
 R   [illegible]
19-  [illegible]
 T   [illegible]
 C   [illegible]
 R   [illegible]
20-  [illegible]
 T   [illegible]
 C   [illegible]
 R   [illegible]
SUM  [illegible]
 T   [illegible]
```

```
RATIO 1  INDIRECT/DIRECT  ENCOURAGING              0.560     RATIO 18 TOR(4+10)/(4+14+5+15)                0.449
RATIO 2  INDIRECT/DIRECT RESTRICTING               0.588     RATIO 19 TOR09 R8.9C4/R8.9C4.8   TOTAL        0.586
RATIO 3  INDIRECT/DIRECT  TOTAL MATRIX             0.567     RATIO 20 TEACHER RESPONSE RATIO 09 TOTAL      0.318
RATIO 4  TEACHER TALK/PUPIL TALK  TOTAL            2.011     RATIO 21 AREA A-ENCOUR/AREA A-RESTRICT        0.400
RATIO 5  PUPIL INITIATED TALK  ENCOUR              0.281     RATIO 22 AREA B-ENCOUR/AREA B-RESTRICT        1.230
RATIO 6 PUPIL INITIATED TALK  RESTRICT             0.673     RATIO 23 AREA C-ENCOUR/AREA C-RESTRICT        1.606
RATIO 7  PUPIL INITIATED TALK  TOTAL               0.421     RATIO 24 ENCOUR-RESTRICT/RESTRICT-ENCOUR      1.010
RATIO 8  T-TALK ENCOUR/T-TALK RESTRICT             2.387     AREA 1 SUMS OF TALLIES R8.9 COLS 1-4/TT       0.020
RATIO 9 VB-ENCOUR/VB-RESTRICT 6-1/8-3              2.445     AREA 2 SUMS OF TALLIES R8.9 COLS 5-7/TT       0.030
RATIO 10 T.RESPONSE RATIO  ENCOURAGING             0.148     AREA 3 SUMS OF TALLIES R1-7 COLS 8.9/TT       0.002
RATIO 11  T.RESPONSE RATIO RESTRICTING             0.256     AREA 4 SUMS OF TALLIES R8-10 COLS 8.9/TT      0.040
RATIO 12  T.RESPONSE RATIO  TOTAL                  0.203     AREA 5 SUMS OF TALLIES R10.19 C15-16/TT       0.005
RATIO 13 SUM OF DIAGONALS RATIO  SSC/TT            0.274     AREA 6 SUMS OF TALLIES R10.19 C15-17/TT       0.011
```

# APPENDIX 23

## IDER MATRIX AND RATIOS FOR TEACHER 5

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | SUM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUM | 16 | 59 | 72 | 338 | 584 | 305 | 120 | 346 | 186 | 735 | 13 | 61 | 75 | 28 | 14 | 141 | 38 | 23 | 93 | 58 | 3332 |
| T | 0.5 | 1.8 | 2.2 | 10.1 | 17.5 | 9.2 | 3.6 | 10.4 | 5.6 | 22.1 | 0.4 | 1.8 | 2.2 | 0.8 | 0.4 | 4.2 | 1.1 | 0.7 | 2.8 | 1.8 | 100.0 |

| | |
|---|---|
| RATIO 1 INDIRECT/DIRECT ENCOURAGING | 0.014 |
| RATIO 2 INDIRECT/DIRECT RESTRICTING | 0.024 |
| RATIO 3 INDIRECT/DIRECT TOTAL MATRIX | 0.548 |
| RATIO 4 TEACHER TALK/PUPIL TALK TOTAL | 2.987 |
| RATIO 5 PUPIL INITIATED TALK ENCOUR | 0.386 |
| RATIO 6 PUPIL INITIATED TALK RESTRICT | 1.000 |
| RATIO 7 PUPIL INITIATED TALK TOTAL | 0.431 |
| RATIO 8 T-TALK ENCOUR/T-TALK RESTRICT | 4.292 |
| RATIO 9 VB-ENCOUR/VB-RESTRICT 8-1/8-3 | 13.451 |
| RATIO 10 T.RESPONSE RATIO ENCOURAGING | 0.299 |
| RATIO 11 T.RESPONSE RATIO RESTRICTING | 0.436 |
| RATIO 12 T.RESPONSE RATIO TOTAL | 0.342 |
| RATIO 13 SUM OF DIAGONALS RATIO SSC/TT | 0.303 |
| RATIO 18 TOR(4+14)/(4+14+5+15) | 0.370 |
| RATIO 19 TOR08 R8.9C4/R8.9C4.5 TOTAL | 0.512 |
| RATIO 20 TEACHER RESPONSE RATIO 08 TOTAL | 0.574 |
| RATIO 21 AREA A-ENCOUR/AREA A-RESTRICT | 7.714 |
| RATIO 22 AREA B-ENCOUR/AREA B-RESTRICT | 4.300 |
| RATIO 23 AREA C-ENCOUR/AREA C-RESTRICT | 18.251 |
| RATIO 24 ENCOUR-RESTRICT/RESTRICT-ENCOUR | 1.018 |
| AREA 1 SUMS OF TALLIES R8.9 COLS 1-4/TT | 0.041 |
| AREA 2 SUMS OF TALLIES R8.9 COLS 5-7/TT | 0.030 |
| AREA 3 SUMS OF TALLIES R1-7 COLS 8.9/TT | 0.081 |
| AREA 4 SUMS OF TALLIES R8-10 COLS 8.9/TT | 0.071 |
| AREA 5 SUMS OF TALLIES R18.19 C12-14/TT | 0.002 |
| AREA 6 SUMS OF TALLIES R18.19 C15-17/TT | 0.009 |

# APPENDIX 24

## IDER MATRIX AND RATIOS FOR TEACHER 6

```
         1      2      3      4      5      6      7      8      9     10     11     12     13     14     15     16     17     18     19     20    SUM

[illegible]

SUM     13     25     43    335   1140    288    200    466    106    619     30     67     54     57     22    114     84     35     46     19   3786
  T    0.3    0.7    1.1    8.9   30.4    7.5    5.3   12.4    3.0   16.5    0.8    1.8    1.4    1.5    0.6    3.0    2.2    0.9    1.2    0.5  100.0

RATIO 1  INDIRECT/DIRECT  ENCOURAGING            0.250     RATIO 18 TOR(4+14)/(4+14+8+18)                    0.222
RATIO 2  INDIRECT/DIRECT RESTRICTING             0.000     RATIO 19 TORSE R8,9C4/R8,9C4.5  TOTAL             0.341
RATIO 3  INDIRECT/DIRECT  TOTAL MATRIX           0.322     RATIO 20 TEACHER RESPONSE RATIO 89 TOTAL          0.467
RATIO 4  TEACHER TALK/PUPIL TALK  TOTAL          3.738     RATIO 21 AREA A-ENCOUR/AREA A-RESTRICT            0.719
RATIO 5  PUPIL INITIATED TALK  ENCOUR            0.130     RATIO 22 AREA B-ENCOUR/AREA B-RESTRICT            2.538
RATIO 6 PUPIL INITIATED TALK  RESTRICT           1.000     RATIO 23 AREA C-ENCOUR/AREA C-RESTRICT           30.287
RATIO 7  PUPIL INITIATED TALK  TOTAL             0.833     RATIO 24 ENCOUR-RESTRICT/RESTRICT-ENCOUR          1.034
RATIO 8  T-TALK ENCOUR/T-TALK RESTRICT           3.181     AREA 1 SUMS OF TALLIES R8,9 COLS 1-4/TT           0.030
RATIO 9 VS-ENCOUR/VS-RESTRICT 6-1/8-3           14.083     AREA 2 SUMS OF TALLIES R8,9 COLS 5-7/TT           0.080
RATIO 10 T.RESPONSE RATIO  ENCOURAGING           0.144     AREA 3 SUMS OF TALLIES R1-7 COLS 8,9/TT           0.104
RATIO 11  T.RESPONSE RATIO RESTRICTING           0.379     AREA 4 SUMS OF TALLIES R8-10 COLS 8,9/TT          0.002
RATIO 12  T.RESPONSE RATIO  TOTAL                0.229     AREA 5 SUMS OF TALLIES R18,19 C13-15/TT           0.003
RATIO 13 SUM OF DIAGONALS RATIO  SSC/TT          0.334     AREA 6 SUMS OF TALLIES R18,19 C15-17/TT           0.000
```

## APPENDIX 25

## IDER MATRIX AND RATIOS FOR TEACHER 7

7.

```
        1     2     3     4     5     6     7     8     9    10    11    12    13    14    15    16    17    18    19    20   SUM

[illegible]

SUM     2    42    20   270   380   202   220   709    64   499    31    60    89    76    12   141    79    63    34
 T    0.1   1.3   0.6   8.2   9.9   6.9   6.9  23.9   1.9  19.9   0.9   1.8   2.7   2.8   0.4   4.3   2.4   1.8   1.0

RATIO 1  INDIRECT/DIRECT  ENCOURAGING          0.393     RATIO 18 TOR(4+10)/(4+10+8+18)              0.803
RATIO 2  INDIRECT/DIRECT RESTRICTING           0.981     RATIO 19 TORES RR.9CR/RR.9CR.8  TOTAL       0.543
RATIO 3  INDIRECT/DIRECT  TOTAL MATRIX         0.818     RATIO 20 TEACHER RESPONSE RATIO 89 TOTAL    0.968
RATIC 4  TEACHER TALK/PUPIL TALK  TOTAL        1.744     RATIO 21 AREA A-ENCOUR/AREA A-RESTRICT      1.280
RATIO 5  PUPIL INITIATED TALK  ENCOUR          0.614     RATIO 22 AREA B-ENCOUR/AREA B-RESTRICT      3.820
RATIC 6 PUPIL INITIATED TALK  RESTRICT         0.0       RATIO 23 AREA C-ENCOUR/AREA C-RESTRICT     21.832
RATIO 7  PUPIL INITIATED TALK  TOTAL           0.104     RATIO 24 ENCOUR-RESTRICT/RESTRICT-ENCOUR    1.036
RATIO 8  T-TALK ENCOUR/T-TALK RESTRICT         2.888     AREA 1 SUMS OF TALLIES R8,9 COLS 1-6/TT     0.020
RATIO 9 VB-ENCOUR/VB-RESTRICT C-1/8-3          9.875     AREA 2 SUMS OF TALLIES R8,9 COLS 8-7/TT     0.003
RATIO 10 T.RESPONSE RATIO  ENCOURAGING         0.109     AREA 3 SUMS OF TALLIES R1-7 COLS 8,9/TT     0.110
RATIC 11  T.RESPONSE RATIO RESTRICTING         0.606     AREA 4 SUMS OF TALLIES R8-10 COLS 8,9/TT    0.131
RATIO 12  T.RESPONSE RATIO  TOTAL              0.223     AREA 5 SUMS OF TALLIES R18,19 C12-16/TT     0.000
RATIO 13 SUM OF DIAGONALS RATIO  SSC/TT        0.313     AREA 6 SUMS OF TALLIES R18,19 C10-17/TT     0.000
```

3

# APPENDIX 26

## IDER MATRIX AND RATIOS FOR TEACHER 8

|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | SUM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUM | 12 | 116 | 42 | 320 | 247 | 208 | 71 | 402 | 169 | 1130 | 18 | 33 | 37 | 27 | 4 | 33 | 5 | 28 | 110 | 8 | 3098 |
| T | 0.4 | 3.7 | 1.4 | 10.0 | 8.0 | 6.6 | 2.3 | 13.0 | 5.5 | 36.6 | 0.6 | 1.1 | 1.2 | 0.9 | 0.1 | 1.1 | 0.2 | 0.9 | 3.6 | 0.3 | 100.0 |

| | |
|---|---|
| RATIO 1 INDIRECT/DIRECT ENCOURAGING | 0.654 |
| RATIO 2 INDIRECT/DIRECT RESTRICTING | 2.310 |
| RATIO 3 INDIRECT/DIRECT TOTAL MATRIX | 0.552 |
| RATIO 4 TEACHER TALK/PUPIL TALK TOTAL | 1.782 |
| RATIO 5 PUPIL INITIATED TALK ENCOUR | 0.290 |
| RATIO 6 PUPIL INITIATED TALK RESTRICT | 0.676 |
| RATIO 7 PUPIL INITIATED TALK TOTAL | 0.488 |
| RATIO 8 T-TALK ENCOUR/T-TALK RESTRICT | 7.777 |
| RATIO 9 VB-ENCOUR/VB-RESTRICT C11/8-3 | 30.271 |
| RATIO 10 T.RESPONSE RATIO ENCOURAGING | 0.336 |
| RATIO 11 T.RESPONSE RATIO RESTRICTING | 0.448 |
| RATIO 12 T.RESPONSE RATIO TOTAL | 0.391 |
| RATIO 13 SUM OF DIAGONALS RATIO SDC/TT | 0.307 |

| | |
|---|---|
| RATIO 18 TOR(4+14)/(4+14+8+15) | 0.886 |
| RATIO 19 TOR89 R8.9C4/R8.9C4.5 TOTAL | 0.509 |
| RATIO 20 TEACHER RESPONSE RATIO 89 TOTAL | .324 |
| RATIO 21 AREA A-ENCOUR/AREA A-RESTRICT | 9.000 |
| RATIO 22 AREA B-ENCOUR/AREA B-RESTRICT | 22.700 |
| RATIO 23 AREA C-ENCCUR/AREA C-RESTRICT | 141.571 |
| RATIO 24 ENCOUR-RESTRICT/RESTRICT-ENCOUR | 1.029 |
| AREA 1 SUMS OF TALLIES R8.9 COLS 1-4/TT | 0.037 |
| AREA 2 SUMS OF TALLIES R8.9 COLS 5-7/TT | 0.066 |
| AREA 3 SUMS OF TALLIES R1-7 COLS 8.9/TT | 0.097 |
| AREA 4 SUMS OF TALLIES R8-10 COLS 8.9/TT | 0.003 |
| AREA 5 SUMS OF TALLIES R10.19 C12-14/TT | 0.008 |
| AREA 6 SUMS OF TALLIES R18.19 C15-17/TT | 0.002 |

# APPENDIX 27

## IDER MATRIX AND RATIOS FOR TEACHER 9

```
RATIO 1  INDIRECT/DIRECT  ENCOURAGING              0.287     RATIO 18 TQR(4+14)/(4+14+5+15)                0.339
RATIO 2  INDIRECT/DIRECT RESTRICTING               1.000     RATIO 19 TQRSS R8.9C4/R8.9C4.5    TOTAL       0343
RATIO 3  INDIRECT/DIRECT  TOTAL MATRIX             0.399      TRR 89
                                                              ~~ZERO DENOMINATOR~~ FOR RATIO20 EQUALS ~~ZERO~~  0.351
RATIO 4  TEACHER TALK/PUPIL TALK  TOTAL            1.690     RATIO 21 AREA A-ENCOUR/AREA A-RESTRICT         1.000
RATIO 5  PUPIL INITIATED TALK  ENCOUR              0.091     RATIO 22 AREA B-ENCCUR/AREA B-RESTRICT         3.510
RATIO 6 PUPIL INITIATED TALK  RESTRICT             0.664     RATIO 23 AREA C-ENCOUR/AREA C-RESTRICT        14.389
RATIO 7  PUPIL INITIATED TALK  TOTAL               0.170     RATIC 24 ENCOUR-RESTRICT/RESTRICT-ENCOUR       1.087
RATIO 8  T-TALK ENCOUR/T-TALK RESTRICT             3.026     AREA 1 SUMS OF TALLIES R8.9 COLS 1-4/TT        0.018
RATIO 9 VB-ENCOUR/VB-RESTRICT C-1/C-3              7.170     AREA 2 SUMS OF TALLIES R8.9 COLS 5-7/TT        0.047
RATIO 10 T.RESPCNSE RATIO  ENCOURAGING             0.880     AREA 3 SUMS OF TALLIES R2-7 COLS 8.9/TT        0.066
RATIO 11  T.RESPONSE RATIO RESTRICTING             0.361     AREA 4 SUMS OF TALLIES R8-10 COLS 8.9/TT       0.133
RATIC 12  T.RESPONSE RATIC  TOTAL                  0.182     AREA 5 SUMS OF TALLIES R18.19 C12-14/TT        0.004
RATIO 13 SUM OF DIAGCNALS RATIO  SSC/TT            0.307     AREA 6 SUMS OF TALLIES R18.19 C15-17/TT        0.007
```

## APPENDIX 28

## IDER MATRIX AND RATIOS FOR TEACHER 10

| | | | | |
|---|---|---|---|---|
| RATIO 1 | INDIRECT/DIRECT ENCOURAGING | 0.445 | RATIO 18 TOR(4+14)/(4+14+8+15) | 0.348 |
| RATIO 2 | INDIRECT/DIRECT RESTRICTING | 0.878 | RATIO 19 TOROS R8.9C4/R8.9C4.5 TOTAL | 0.271 |
| RATIO 3 | INDIRECT/DIRECT TOTAL MATRIX | 0.488 | RATIO 20 TEACHER RESPONSE RATIO 89 TOTAL | 0.484 |
| RATIO 4 | TEACHER TALK/PUPIL TALK TOTAL | 1.079 | RATIO 21 AREA A-ENCOUR/AREA A-RESTRICT | 0.607 |
| RATIO 5 | PUPIL INITIATED TALK ENCOUR | 0.387 | RATIO 22 AREA B-ENCOUR/AREA B-RESTRICT | 1.214 |
| RATIO 6 | PUPIL INITIATED TALK RESTRICT | 0.455 | RATIO 23 AREA C-ENCOUR/AREA C-RESTRICT | 1.925 |
| RATIO 7 | PUPIL INITIATED TALK TOTAL | 0.339 | RATIO 24 ENCOUR-RESTRICT/RESTRICT-ENCOUR | 1.020 |
| RATIO 8 | T-TALK ENCOUR/T-TALK RESTRICT | 3.041 | AREA 1 SUMS OF TALLIES R8.9 COLS 1-4/TT | 0.010 |
| RATIO 9 | VR-ENCOUR/VR-RESTRICT 8-1/8-3 | 3.707 | AREA 2 SUMS OF TALLIES R8.9 COLS 5-7/TT | 0.027 |
| RATIO 10 | T.RESPONSE RATIO ENCOURAGING | 0.190 | AREA 3 SUMS OF TALLIES R1-7 COLS 8.9/TT | 0.088 |
| RATIO 11 | T.RESPONSE RATIO RESTRICTING | 0.338 | AREA 4 SUMS OF TALLIES R4-19 COLS 8.9/TT | 0.121 |
| RATIO 12 | T.RESPONSE RATIO TOTAL | 0.273 | AREA 5 SUMS OF TALLIES R18.19 C12-14/TT | 0.002 |
| RATIO 13 | SUM OF DIAGONALS RATIO SSC/TT | 0.312 | AREA 6 SUMS OF TALLIES R18.19 C15-17/TT | 0.010 |

## APPENDIX 29

### PERCENTAGE OF TEACHER TALK, PUPIL TALK, SILENCE, AND CONFUSION FOR THE TEN TEACHERS

| Teacher | T. talk Encour. | T. talk Restr. | T. talk Total | P. talk Encour. | P. talk Restr. | P. talk total | Silence | Confusion |
|---|---|---|---|---|---|---|---|---|
| 1 | 47.8 % | 6.7 % | 54.5 % | 19.9 % | 3.5 % | 23.4 % | 21.7 % | 0.77 % |
| 2 | 46.5 | 11.8 | 58.3 | 13.9 | 4.3 | 18.2 | 18.1 | 4.8 |
| 3 | 22.1 | 15.3 | 37.4 | 13.9 | 10.8 | 24.7 | 25.3 | 12.0 |
| 4 | 32.7 | 13.9 | 46.6 | 15.1 | 8.1 | 23.2 | 19.3 | 10.1 |
| 5 | 45.9 | 10.6 | 56.5 | 16.0 | 3.5 | 18.7 | 22.1 | 1.6 |
| 6 | 54.2 | 10.5 | 64.7 | 15.2 | 2.1 | 27.9 | 16.5 | 0.5 |
| 7 | 36.9 | 13.8 | 50.7 | 25.8 | 2.6 | 21.1 | 19.9 | 1.1 |
| 8 | 35.0 | 4.6 | 39.6 | 18.5 | 4.7 | 23.2 | 36.6 | 0.3 |
| 9 | 38.0 | 10.5 | 48.5 | 21.8 | 6.9 | 28.7 | 20.5 | 1.6 |
| 10 | 31.5 | 15.4 | 46.9 | 23.6 | 4.3 | 27.9 | 16.4 | 7.8 |
| **Mean** | **39.5** | **11.1** | **50.6** | **18.5** | **4.9** | **23.4** | **21.5** | **3.7** |

| | | |
|---|---|---|
| Teacher Talk | Encouraging | 39.5% |
| | Restricting | 11.1 |
| Total | | 50.6% |
| Pupil Talk | Encouraged | 18.5% |
| | Restricted | 4.9 |
| | | 23.4% |
| Silence | Comfortable Orderly | 21.5% |
| Confusion | Uncomfortable Disorganized | 3.7% |

# APPENDIX 30

## FACTOR I. (Horn and Morrison)
## TRADITIONALISTIC VERSUS MODERN BELIEFS ABOUT CHILD CONTROL

| Item Number | Factor Loading | MTAI Statement |
|---|---|---|
| 12 | .497 | Pupils should be required to do more studying at home. |
| 19 | .703 | Pupils have it too easy in the modern school. |
| 21 | .460 | Pupils expect too much help from the teacher in getting their lessons. |
| 23 | .606 | Most pupils do not make an adequate effort to prepare their lessons. |
| 24 | .608 | Too many children nowadays are allowed to have their own way. |
| 35 | .664 | Discipline in the modern school is not as strict as it should be. |
| 50 | .565 | Teachers should exercise more authority over their pupils than they do. |
| 57 | .561 | Many teachers are not severe enough in their dealings with pupils. |
| 63 | .559 | Too much nonsense goes on in many classrooms these days. |
| 65 | .420 | Children are too carefree. |
| 76 | .668 | There is too much leniency today in the handling of children. |
| 80 | .653 | Children mowadays are allowed too much freedom in school. |
| 92 | .579 | There are too many activities lacking in academic respectability that are being introduced into the curriculum of the modern school. |
| 104 | .566 | Teachers should consider problems of conduct more seriously than they do. |
| 110 | .706 | As a rule teachers are too lenient with their pupils. |
| 116 | .705 | Most pupils have too easy a time of it and do not learn to do real work. |
| 126 | .688 | Children today are given too much freedom. |

# APPENDIX 31

## FACTOR II. (Horn and Morrison)
## UNFAVORABLE VERSUS FAVORABLE OPINIONS ABOUT CHILDREN

| Item Number | Factor Loading | MTAI Statement |
|---|---|---|
| 6 | .450 | Most pupils do not appreciate what a teacher does for them. |
| 22 | .464 | A teacher should not be expected to sacrifice an evening of recreation in order to visit a child's home. |
| 25 | .402 | Children's wants are just as important as those of an adult (negative). |
| 9 | .357 | Children have a natural tendency to be unruly. |
| 30 | .497 | A teacher cannot place much faith in the statements of pupils. |
| 37 | .365 | Standards of work should vary with the pupil (negative). |
| 38 | .354 | The majority of children take their responsibilities seriously (negative). |
| 74 | .432 | Pupils usually are not qualified to select their own topics for themes and reports. |
| 77 | .616 | Difficult disciplinary problems are seldom the fault of the teacher. |
| 83 | .616 | Children are unable to reason adequately. |
| 94 | .566 | Most pupils are unnecessarily thoughtless relative to the teacher's wishes. |
| 96 | .422 | Pupils are usually slow to "catch on" to new materials. |
| 106 | .479 | A teacher should not be expected to do more work than he is paid for. |
| 113 | .534 | Pupils like to annoy the teacher. |
| 114 | .504 | Children usually will not think for themselves. |
| 119 | .460 | A teacher seldom finds children really enjoyable. |
| 121 | .564 | It isn't practicable to base school work upon children's interests. |
| 124 | .559 | Children are usually too inquisitive. |
| 127 | .344 | One should be able to get along with almost any child (negative). |
| 128 | .532 | Children are not mature enough to make their own decisions. |
| 130 | .413 | Children will think for themselves if permitted (negative). |
| 132 | .564 | Children just cannot be trusted. |
| 134 | .576 | Most pupils are not interested in learning. |

## APPENDIX 32

### FACTOR III. (Horn and Morrison)

### PUNITIVE INTOLERANCE VERSUS PERMISSIVE TOLERANCE FOR CHILD MISBEHAVIOR

| Item Number | Factor Loading | MTAI Statement |
|---|---|---|
| ~~2~~ 3 | .402 | Pupils who "act smart" probably have too high an opinion of themselves. |
| 10 | .584 | It sometimes does a child good to be criticized in the presence of other pupils. |
| 11 | .420 | Unquestioning obedience in a child is not desirable (negative). |
| 13 | .603 | The first lesson a child needs to learn is to obey the teacher with hesitation. |
| 28 | .425 | The boastful child is usually overconfident of his ability. |
| 32 | .397 | A pupil should be required to stand when reciting. |
| 41 | .407 | Imaginative tales demand the same punishment as lying. |
| 43 | .481 | A good motivating device is the critical comparison of a pupil's work with that of other pupils. |
| 44 | .412 | It is better for a child to be bashful than to be "boy or girl crazy". |
| 47 | .613 | The child must learn that "teacher knows best." |
| 56 | .263 | At times it is necessary that the whole class suffer when the teacher is unable to identify the culprit. |
| 69 | .566 | Assigning additional school work is often an effective means of punishment. |
| 70 | .419 | Dishonesty as found in cheating is probably one of the most serious of moral offenses. |
| 72 | .560 | Pupils must learn to respect teachers if for no other reason than that they are teachers. |
| 75 | .444 | No child should rebel against authority. |
| 85 | .660 | The child who misbehaves should be made to feel guilty and ashamed of himself. |
| 86 | .436 | If a child wants to speak or to leave his seat during the class period, he should always get permission from the teacher. |
| 88 | .435 | Throwing of chalk and erasers should always demand severe punishment. |
| 100 | .367 | Children must be told exactly what to do and how to do it. |
| 103 | .523 | Shy pupils especially should be required to stand when reciting. |
| 115 | .469 | Classroom rules and regulations must be considered inviolable. |
| 129 | .457 | A child who bites his nails needs to be shamed |

## APPENDIX 33

### FACTOR IV. (Horn and Morrison)
### ALOOF VERSUS INVOLVED (SENSITIVE, EMPATHIC) ATTITUDE TOWARD CHILDREN

| Item Number | Factor Loading | MTAI Statement |
|---|---|---|
| 7 | .392 | If the teacher laughs with the pupils in amusing classroom situations, the class tends to get out of control. |
| 14 | .304 | Young people are difficult to understand these days. |
| 31 | .422 | Some children ask too many questions. |
| 67 | .547 | Pupils who are foreigners usually make the teacher's task more umpleasant. |
| 111 | .712 | Slow pupils certainly try one's patience. |
| 122 | .650 | It is difficult to understand why some children want to come to school so early in the morning before opening time. |
| 139 | .620 | The teacher should disregard the complaints of the child who constantly talks about imaginary illnesses. |

# APPENDIX 34

## FACTOR V. (Horn and Morrison)
## LAISSEZ-FAIRE VERSUS
## CONTROLLING ATTITUDE TOWARD CHILDREN

| Item Number | Factor Loading | MTAI Statement |
|---|---|---|
| 15 | .665 | There is too great an emphasis upon "keeping order" in the classroom. |
| 64 | .541 | The school is often to blame in cases of truancy. |
| 93 | .648 | Children should be given more freedom in the classroom than they usually get. |
| 140 | .580 | Teachers probably overemphasize the seriousness of such pupil behavior as the writing of obscene notes. |

## APPENDIX 35

### FACTOR 1. (Yee and Fruchter)
### CHILDREN'S IRRESPONSIBLE TENDENCIES AND LACK OF SELF-DISCIPLINE

| Item Number | Factor Loading | MTAI Statement |
|---|---|---|
| 19 | .59 | Pupils have it too easy in the modern school. |
| 21 | .55 | Pupils expect too much help from the teacher in getting their lessons. |
| 23 | .46 | Most pupils do not make an adequate effort to prepare their lessons. |
| 24 | .46 | Too many children nowadays are allowed to have their own way. |
| 35 | .61 | Discipline in the modern school is not as strict as it should be. |
| 36 | .50 | Most pupils lack productive imagination. |
| 52 | .44 | The low achiever probably is not working hard enough and applying himself. |
| 54 | .44 | Most children lack common courtesy toward adults. |
| 63 | .46 | Too much nonsense goes on in many classrooms these days. |
| 65 | .51 | Children are too carefree. |
| 75 | .44 | No child should rebel against authority. |
| 76 | .57 | There is too much leniency today in the handling of children. |
| 80 | .60 | Children nowadays are allowed too much freedom in school. |
| 92 | .44 | There are too many activities lacking in academic respectability that are being introduced into the curriculum of the modern school. |
| 109 | .53 | Young people nowadays are too frivolous. |
| 110 | .49 | As a rule teachers are too lenient with their pupils. |
| 114 | .47 | Children usually will not think for themselves |
| 116 | .54 | Most pupils have too easy a time of it and do not learn to do real work. |
| 126 | .65 | Children today are given too much freedom. |
| 128 | .45 | Children are not mature enough to make their own decisions. |

## APPENDIX 36

### FACTOR II. (Yee and Fruchter)
### CONFLICT BETWEEN TEACHERS' AND PUPILS' INTERESTS

| Item Number | Factor Loading | MTAI Statement |
|---|---|---|
| 20 | .43 | A teacher should not be expected to burden himself with a pupil's problems. |
| 34 | .42 | A teacher should never acknowledge his ignorance of a topic in the presence of his pupils. |
| 99 | .48 | Children have no business asking questions about sex. |
| 119 | .46 | A teacher seldom finds children really enjoyable. |
| 121 | .49 | It isn't practicable to base school work upon children's interests. |
| 124 | .44 | Children are usually too inquisitive. |
| 131 | .51 | There is no excuse for the extreme sensitivity of some children. |
| 132 | .49 | Children just cannot be trusted. |
| 133 | .44 | Children should be given reasons for the restrictions placed upon them. |
| 134 | .47 | Most pupils are not interested in learning. |
| 136 | .47 | A pupil should always be fully aware of what is expected of him. |
| 137 | .48 | There is too much intermingling of the sexes in extra-curricular activities. |
| 141 | .50 | Teachers should not expect pupils to like them. |
| 144 | .51 | Teachers can be in the wrong as well as pupils. |
| 149 | .55 | One should not expect pupils to enjoy school. |

## APPENDIX 37

## FACTOR III. (Yee and Fruchter)
## RIGIDITY AND SEVERITY IN HANDLING PUPILS

| Item Number | Factor Loading | MTAI Statement |
|---|---|---|
| 13 | .56 | The first lesson a child needs to learn is to obey the teacher without hesitation. |
| 27 | .52 | A child should be taught to obey an adult without question. |
| 47 | .44 | The child must learn that "teacher knows best." |
| 72 | .46 | Pupils must learn to respect teachers if for no other reason than that they are teachers. |
| 81 | .42 | All children should start to read by the age of seven. |
| 85 | .45 | The child who misbehaves should be made to feel guilty and ashamed of himself. |
| 86 | .49 | If a child wants to speak or to leave his seat during the class period, he should always get permission from the teacher. |
| 88 | .51 | Throwing of chalk and erasers should always demand severe punishment. |
| 103 | .44 | Shy pupils especially should be required to stand when reciting. |
| 115 | .51 | Classroom rules and regulations must be considered inviolable. |
| 118 | .49 | A pupil found writing obscene notes should be severely punished. |
| 129 | .42 | A child who bites his nails needs to be shaned. |

# APPENDIX 38

## FACTOR IV. (Yee and Fruchter)

## PUPILS' INDEPENDENCE IN LEARNING

| Item Number | Factor Loading | MTAI Statement |
|---|---|---|
| 15 | .42 | There is too great an emphasis upon "keeping order" in the classroom. |
| 16 | .45 | A pupil's failure is seldom the fault of the teacher. |
| 53 | .44 | There is too much emphasis on grading. |
| 64 | .47 | The school is often to blame in cases of truancy. |
| 71 | .47 | Children should be allowed more freedom in their execution of learning activities. |
| 77 | .46 | Difficult disciplinary problems are seldom the fault of the teacher. |
| 93 | .54 | Children should be given more freedom in the classroom than they usually get. |

## APPENDIX 39

### FACTOR V. (Yee and Fruchter)

### PUPILS' ACQUIESCENCE TO THE TEACHER

| Item Number | Factor Loading | MTAI Statement |
|---|---|---|
| 1 | .44 | Most children are obedient. |
| 90 | .49 | Most pupils try to make things easier for the teacher. |
| 101 | .56 | Most pupils are considerate of their teachers. |
| 107 | .52 | There is nothing that can be more irritating than some pupils. |
| 113 | .44 | Pupils like to annoy the teacher. |
| 146 | .42 | Keeping discipline is not the problem that many teachers claim to be. |

## APPENDIX 40

### FACTOR I. (Bailey)*
### THE IMPORTANCE OF DISCIPLINE AND CONTROL IN THE EDUCATION OF CHILDREN

| Item Number | Factor Loading | MTAI Statement |
|---|---|---|
| 11 | .46 | Unquestioning obedience in a child is not desirable. |
| 13 | .56 | The first lesson a child needs to learn is to obey the teacher without hesitation. |
| 15 | .54 | There is too great an emphasis upon "keeping order" in the classroom. |
| 19 | .49 | Pupils have it too easy in the modern school. |
| 27 | .53 | A child should be taught to obey the adult without question. |
| 35 | .61 | Discipline in the modern school is not as strict as it should be. |
| 47 | .57 | The child must learn that "teacher knows best". |
| 49 | .53 | A teacher should not be expected to be sympathetic towards truants. |
| 50 | .63 | Teachers should exercise more authority over their pupils than they do. |
| 52 | .45 | The low achiever probably is not working hard enough and applying himself. |
| 56 | .52 | At times it is necessary that the whole class suffer when the teacher is unable to identify the culprit. |
| 57 | .53 | Many teachers are not severe enough in their dealings with pupils. |
| 64 | .50 | The school is often to blame in cases of truancy. |
| 72 | .57 | Pupils must learn to respect teachers if for no other reason than that they are teachers. |
| 75 | .49 | No child should rebel against authority. |
| 76 | .53 | There is too much leniency today in the handling of children. |
| 80 | .55 | Children nowadays are allowed too much freedom in school. |
| 82 | .47 | Universal promotion of pupils lowers achievement standards. |

*continued

Appendix 40 (cont'd)

| Item Number | Factor Loading | MTAI Statement |
|---|---|---|
| 84 | .61 | A teacher should not tolerate use of slang expressions by his pupils. |
| 85 | .55 | The child who misbehaves should be made to feel guilty and ashamed of himself. |
| 86 | .66 | If a child wants to speak as to leave his seat during the class period, he should always get permission from the teacher. |
| 93 | .46 | Children should be given more freedom in the class than they usually get. |
| 95 | .54 | Children should not expect talking privileges when adults wish to speak. |
| 102 | .51 | Whispering should not be tolerated. |
| 108 | .51 | "Lack of spplication" is probably one of the most frequent causes for failure. |
| 109 | .56 | Young people nowadays are too frivolous. |
| 110 | .49 | As a rule teachers are too lenient with their pupils. |
| 115 | .56 | Classroom rules and regulations must be considered inviolable. |
| 118 | .54 | A pupil found writing obscene notes should be severely punished. |
| 121 | .53 | It isn't practicable to base school work upon children's interests. |
| 126 | .60 | Children today are given too much freedom. |

APPENDIX 41

## FACTOR II. (Bailey)
## CONCERN OR LACK OF CONCERN
## FOR THE NEEDS AND INTERESTS OF CHILDREN

| Item Number | Factor Loading | MTAI Statement |
|---|---|---|
| 58 | .47 | Children "should be seen and not heard". |
| 71 | .49 | Children should be allowed more freedom in their execution of learning activities. |
| 99 | .54 | Children have no business asking questions about sex. |
| 119 | .59 | A teacher seldom finds children really enjoyable. |
| 122 | .55 | It is difficult to understand why some children want to come to school so early in the morning before opening time. |
| 124 | .57 | Children are usually too inquisitive. |
| 129 | .62 | A child who bites his nails needs to be shamed. |
| 131 | .55 | There is no excuse for the extreme sensitivity of some children. |
| 132 | .62 | Children just cannot be trusted. |
| 133 | .52 | Children should be given reasons for the restrictions placed upon them. |
| 134 | .51 | Most pupils are not interested in learning. |
| 135 | .51 | It is usually the uninteresting and difficult subjects that will do the pupil the most good. |
| 137 | .48 | There is too much intermingling of the sexes in extra-curricular activities. |
| 144 | .65 | Teachers can be in the wrong as well as pupils. |
| 145 | .61 | Young people today are just as good as those of the past generation. |
| 147 | .59 | A pupil has the right to disagree openly with his teachers. |
| 149 | .59 | One should not expect pupils to enjoy school. |

# APPENDIX 42

## FACTOR III. (Bailey)
## UNFAVORABLE OPINIONS ABOUT CHILDREN

| Item Number | Factor Loading | MTAI Statement |
|---|---|---|
| 23 | .47 | Most children do not make an adequate effort to prepare their lessons. |
| 24 | .60 | Too many children nowadays are allowed to have their own way. |
| 36 | .45 | Most pupils lack productive imagination. |
| 61 | .52 | Children are usually too sociable in the classroom. |
| 63 | .47 | Too much nonsense goes on in many classrooms these days. |
| 79 | .45 | Children usually have a hard time following instructions. |
| 116 | .54 | Most pupils have too easy a time of it and do not learn to do real work. |